SECTION S01010
SUMMARY OF WORK

1.01 WORK UNDER THE CONTRACT

A. The Work shall be as described in the Contract Documents.

1.02 ALLOWANCES

A. Selected materials, equipment, and services are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. Unused portions of an allowance shall be credited to the Authority.

B. Submittals

1. Submit proposals for purchase of products, systems, or services included in allowances.

2. Submit invoices or delivery slips to show the actual quantities of materials delivered to the site, or services performed, for use in fulfillment of each allowance.

C. Schedule of Allowances

1. Allowance No. 1:
The contractor shall include in the bid an allowance of the sum of $ 3,000 for the purchase of the office stock as indicated in specification Section S01500, subsection 1.17.B.5.e.

2. Allowance No. 2:
The contractor shall include a sum of $30,000 in bid price for installation of one ply vent base sheet (mechanically fasten to the deck) and one ply vapor barrier in the roof field area and base flashing in lieu of 2 ply vapor barrier.

1.02A PROVISIONS

There are several items shown on drawing T002, which shall be included in the bid by the Contractor. These quantities shown are in addition to whatever shown on the drawings by either quantities or dimensions or shown by quantities at

scattered locations under the key work notes. The items in provisions shall not be used by the contractor under his own discretion. The project engineer or architect shall authorize the use of these items after examining the condition from the scaffolding. Prior to use of these quantities, contractor shall submit shop drawings showing the location and the quantity of work required.

If these items are not used in the project or used partially, than the contractor shall provide a credit to the authority. Contractor shall include in his bid the cost of providing and installing all related means including scaffolding, lifts, inspections, shop drawings, etc. for the provision items.

1.03 ALTERNATES

Not used.

1.04 PRODUCTS, MATERIAL, AND EQUIPMENT PURCHASED BY THE AUTHORITY

Not used.

1.05 PRODUCTS, MATERIAL, AND EQUIPMENT ORDERED IN ADVANCE

Not used.

1.06 PHASING

A. Order of Work

1. To complete all work of all trades within the required Contract Duration and to accommodate ongoing school activities and Project needs, the Work shall be in accordance with the "Phasing Exhibit".

1.07 WORK UNDER OTHER CONTRACTS

A. The Authority has awarded a separate contract for performance of certain construction operations at the site. Those operations will be conducted simultaneously with work under this Contract.

B. Cooperate fully with separate contractors so that work under those contracts may be carried out smoothly, without interfering with or delaying work under this Contract.

1.08 ITEMS NOT INCLUDED

The following items shown on the Drawings are not included in the Work:

A. Items indicated "By Others".
B. Items indicated "N.I.C." (Not in Contract).

C. Existing construction not indicated or specified to be removed, replaced or altered.

1.09 CUTTING, PATCHING AND REMOVALS

A. Contractor shall do all cutting and patching, painting and finishing of existing work which is disturbed while performing the Work. Contractor shall be responsible for restoring new work which is damaged. All work shall be restored to provide a new appearance and to be structurally sound.

B. The work shall be done by competent workmen skilled in the trade required by the restoration.

C. As soon as practicable after the commencement of work and prior to any imminent placing of structural concrete, structural steel, and masonry, the Contractor shall submit to the Authority a sketch indicating the location and size of all penetrations, including, but not limited to, sleeves and ducts, which will be required to accommodate the respective trades in order that it may be determined if such penetrations will materially weaken the building structure. The sketch will be stamped and returned if approved. If not approved, reasons will be stated and submitted to the Contractor. The Contractor shall continue to submit sketches as the work progresses and shall not proceed with portions of Work having penetrations until such penetrations are approved.

D. Examination:

1. Prior to cutting, drilling, or removal, investigate both sides of the surface involved. Determine the exact location of structural members.

2. If unforeseen obstructions are encountered, take precautions necessary to prevent damage and obtain instructions from the Authority before proceeding with the Work.

E. Preparation:

1. Provide temporary shoring and other supports necessary to prevent settlement or other damage to existing construction which is to remain.
2. Prepare existing surfaces properly to receive, and where required, to bond with the Work.

F. Removals, Cutting, Altering:

1. In addition to items indicated on Drawings to be removed, remove existing construction superseded by the Work except items such as pipes, conduits, recessed boxes, and ducts which are built into existing construction that is to remain. Cut off and conceal such items at face of remaining construction. Provide cover plates on recessed boxes.

2. Remove and alter existing construction as required to install and connect the Work to adjacent construction in an approved manner.

3. Cut and alter existing materials as required to perform the Work. Limit the cutting to the smallest amount necessary. Core drill around holes and saw-cut other openings where possible.

4. Perform cutting, drilling, and removals in a manner that will prevent damage to construction that is to remain.

G. Patching:

1. Patch existing construction and finishes defaced, damaged, or left incomplete due to alterations or removals. Patching, except as otherwise indicated, shall be limited to the areas which have been cut or altered; match materials, finishes, underlying construction, and quality of area patched.

H. Existing Premises Work: in addition to Work described above for cutting and patching, perform the following:

1. Remove portions of existing slabs, beams, walls and partitions; cut new openings in slabs, walls and partitions for new chases, doors, equipment, steel beams, columns, lintels, and other items, do all cutting and removal of existing work required by the Drawings and the Specifications, or as may be

required for the proper installation of the new Work. Block up and patch slabs, walls, partitions, ceilings, and other areas and surfaces, with materials indicated on the Drawings or specified herein. If type of material for patching is not indicated, match existing.

2. Provide all supports, shorings, bracing, and other means, required for existing beams, columns, lintels, walls, and other components, at locations where alterations occur.

3. Remove portions of existing walls, slabs, fireproofing and ceilings where required to provide for connections and reinforcing of existing steel and installation of new steel. See framing details on Drawings.

4. Existing unfinished, unexposed walls and ceilings that become exposed walls and ceilings of finished rooms and other locations due to the Work of this Contract, shall be finished to match the adjoining wall and ceiling finish, unless otherwise specified.

5. Existing masonry walls and partitions that are to be finished with plaster, or tile, shall have all existing paint, tile, plaster and other finishes removed, joints raked out to a depth of 1/2", and the wall surfaces hacked and roughened to provide a proper bond for new materials.

6. The option of installing self-furring metal lath secured in place with hardened spiral steel nails, may be used on walls and partitions referred to in preceding Paragraph in place of raking joints and hacking wall surfaces as specified, provided all required adjustments are made to suit conditions.

7. All holes in existing slabs and floors due to removal of piping, enclosures, duct enclosures, and other items, shall be slabbed over and filled properly before any floor finishes are installed.

8. Avoid damaging existing electric conduits in floor fill and slabs when cutting holes through slabs or removing floor fill; verify conditions at the building.

9. Where partitions are indicated to be removed, they shall be removed down to the structural slab or supporting structural members. Where new partitions are to be installed, remove floor finishes down to solid concrete fill or existing slabs.

10. Remove existing floors or portions of floors as required to install new floor or extend existing floors.

11. Where alterations occur in rooms and no new finish floor is indicated or specified, the existing floor shall be carefully protected and after alteration Work is completed, do all patching, repairing and replacing that may be required to provide a complete finished floor.

12. Remove hung and furred ceilings or portions of ceilings as indicated on the Drawings, or herein specified, or required for proper installation of new Work.

13. In rooms and locations where doors are removed, also remove the door stops and blocks thereof secured to wall or floors.

14. Remove saddles at door openings where no longer required.

15. Remove existing door numbers on doors where room use changes.

16. Remove cabinets, wardrobes, and built-in equipment in all locations where indicated on Drawings, where required for installation of new work, or as may be required to suit new conditions. If these objects are known or assumed to be coated with lead-based paint in accordance with Section S01900, Article 1.02 titled "PRECAUTIONS AGAINST LEAD PAINT EXPOSURE" they shall be completely sealed in 6-mil polyethylene prior to transport from the work area, and they shall be disposed of in accordance with Section S01900, Article titled "DISPOSAL OF PAINTED WASTE AND DEBRIS".

17. Where doors are to be removed, also remove all trim, frames, bucks, blocking, and other miscellaneous components, unless otherwise indicated on Drawings. If these objects are known

or assumed to be coated with lead-based paint in accordance with Section S01900, Article 1.02 titled "PRECAUTIONS AGAINST LEAD PAINT EXPOSURE", they shall be completely sealed in 6-mil polyethylene prior to transport from the work area, and they shall be disposed of in accordance with Section S01900, Article titled "DISPOSAL OF PAINTED WASTE AND DEBRIS". Where windows are to be removed, see Section 08522 Aluminum Double Hung Windows - Replacement Installations & Section 02081 - Asbestos Abatement.

18. Remove exposed bolts, supports, brackets, cleats, grounds, and other items, that are no longer required for the purpose for which they were originally installed.

19. Cut new openings in exterior walls, if and where indicated on the Drawings, floor to ceiling, for passage to new addition, at all floors.

20. Where new vinyl composition tile floors are indicated on the Drawings at locations where existing finish floor is asphalt tile the existing finish floor and adhesive shall be entirely removed. The use of solvents which would prevent proper bonding of new flooring is prohibited.

21. All existing work damaged or lost as a result of performing the required new Work, shall be patched, repaired or replaced with new, and finished to match the new Work.

22. Where existing work required to be removed and replaced is found to be defective in any way, it shall be reported to the Authority before it is disturbed.

23. Certain items, equipment, and materials indicated to be removed shall be salvaged and delivered to the Division of School Facilities or other location as indicated in Section 02070 - Selective Removals and Demolition.

1.10 PROJECT WORKING HOURS

A. The Contractor shall establish the work hours for the project within the parameters set forth by the City of New York Department of Buildings, the Department of Environmental Protection, and other agencies having such

jurisdiction. Provide the Authority with a schedule of the intended hours in order for it to set its personnel schedule.

B. Refer to "Phasing Exhibit" for project working hours.

C. No overtime work shall be performed without prior written approval by the Authority.

D. When performing work during "After hours" periods as determined by the NYC Building Department, obtain and pay for all required permits. Secure permits from the Department of Buildings under the Department of Education's continuing "After-Hour Work Permit". Use D.O.E. Form P.O. 68, which can be obtained from the designated representative of the Director of Field Operations, Office of Building Services, 44-36 Vernon Blvd, Long Island City, NY 11101.

1.11 PROGRESS PHOTOGRAPHS

A. The Contractor shall take and submit to the Authority, digital color photographs of the Site and the Work being performed under this Contract. The digital photographs shall be taken prior to start of Work and thereafter on a monthly basis, and at the completion of the Work. The number and locations from which the digital photographs are taken shall be subject to the direction and approval of the Authority and shall be sufficient to record the conditions existing prior to the commencement of Work and thereafter as directed by the Authority to sufficiently document and record the overall progress of the Work Site, construction, architectural and structural details. This includes site and building conditions of adjoining properties prior to and during the construction.

B. All digital color photographs shall be in the JPEG color format and shall be concisely labeled with date, time project number and subject. The digital photographs shall be stored on Compact Disks (CDs); each labeled with the project and date taken. The digital photographs shall be, at a minimum, 3.0 mega-pixel, high resolution, best quality.

C. In addition to submitting CDs, an $8^1/_2$"x11" color printout of each digital photograph taken shall be included. Each printout shall on photo quality paper. Additionally, each printout shall be sheathed in a clear flexible plastic covering.

D. The disk(s) and the sheathed printouts shall be delivered to the Authority's representative monthly and, at the latest, must accompany the monthly requisition for the period photographed.

E. The cost for taking, processing and delivering the disk(s) and sheathed printouts shall be included in the Contractors Bid Amount.

F. The Contractor shall provide an average of 10 digital photographs (as described above) per month. The preconstruction photos shall be sufficient to adequately document pre-existing conditions of existing buildings and adjacent properties.

1.12 FINAL LOT SURVEY

A. Contractor shall provide a final lot survey of the Project property, by a licensed surveyor in accordance with the NYC Building Code Par. 27-219.

1.13 LOT-LINE INSTALLATIONS

A. Where curbs, footings and retaining walls are indicated or specified to be installed along lot-lines of the premises, submit to the Authority, a certificate from a City Surveyor approved by the Authority, showing and certifying to, the relationship of the curb, footings and wall to the lot-line. This certificate shall be submitted, in duplicate, not less than 10 days before application for final payment.

1.14 MONUMENTS AND BENCH MARKS

A. When City Monuments or bench marks occur within the limits of, or in the vicinity of, any proposed excavation or demolition, such monuments or bench marks shall not be disturbed.

The excavation or demolition shall not be carried nearer than 5"-0" to such monuments and bench marks until they have been referenced and reset, or otherwise disposed of, under the direction of the Bureau of Highways. The labor required to remove and reset such monuments and bench marks shall be supplied as a part of the Contract.

1.15 MAINTENANCE CONTRACTS

A. The maintenance contract shall provide for periodic surveillance of the respective equipment and maintenance

as stipulated in the respective technical Sections and shall include, but be not limited to the following:

1. Adjusting for proper operation.

2. Replacing or repairing defective components.

3. Lubricating.

1.16 COMMISSIONING REQUIREMENTS

A. The Contractor shall comply with the Commissioning Requirements defined in Section S01660, Supplemental Commissioning Requirements.

1.17 BMS/DDC COORDINATION

A. The furnishing and installation of the Building Management System/Direct Digital Control (BMS/DDC) controls shall be coordinated by the General Contractor along with all of the applicable subcontractors. The entities involved are the General Contractor, HVAC Mechanical Contractor, P&D Mechanical Contractor, Temperature Control Contractor (TCC), and Electrical Contractor.

B. The General Contractor has ultimate responsibility to determine which entity is responsible for each portion of the work and how the work will be coordinated. The TCC is responsible for the integration of all LonWorks controllers into the BMS network for controllers furnished both by the TCC and by other manufacturers. It is recognized that controls furnished by other manufacturers and by trades other than Mechanical necessitate that both the General Contractor (GC) and Mechanical Contractor (MC) actively facilitate the coordination of controls between all parties. It is the responsibility of each manufacturer furnishing a digital controller for its proper operation, configuration, and compliance with all appropriate specification sections, and for the complete documentation of their respective controller/gateway. It is the responsibility of each manufacturer to comply with the intent of each specification section relating to, but not limited to providing direct, technical assistance to the TCC to integrate the manufacturer's device(s) into the BMS, technical performance, warranties, service response, etc.

C. The MC and the GC shall determine which combination of providing digital controls best meets the intent of the

Specifications. The combination is the responsibility of the Mechanical Contractor reporting to the General Contractor; however, the final combination must comply with the specified requirements for each piece of mechanical equipment as described in Section 15970, Temperature Control System (LonWorks BMS/DDC With School Operating Console) and in each of the respective equipment specification sections.

1.18 SUSTAINABILITY REQUIREMENTS

Not used.

1.19 NEW YORK CITY CONSTRUCTION CODE OF 2008 IMPLEMENTATION

A. Beginning July 1, 2008, Chapters 17 and 33 of the New York City Construction Code go into affect. These two chapters supersede the Controlled Inspections requirements contained in the 1968 Building Code, and Chapter 19 of the 1968 Building Code that deals with protection of the public.

1. References to "Controlled Inspections" and applicable code sections and "Controlled Inspector" referenced in the Contract Documents shall mean the equivalent "Special Inspection" and "Special Inspector" in accordance with the 2008 NYC Construction Code. It shall be noted that some individual "Controlled Inspection" items have been combined into one "Special Inspection" category.

2. References to public protectives and code sections included in Chapter 19 of the 1968 code referenced in the Contract Documents shall mean those equivalent Sections contained in Chapter 33 of the NYC Construction Code. The Contractor shall be responsible for complying with all provisions of Chapter 33 of the NYC Construction Code.

END OF SECTION

SECTION S01300
SUBMITTALS

1.01 SUMMARY

A. Contractor shall provide all Submittals required by the Contract. The Contractor shall adhere to all submittal and scheduling. After examination of the Submittal by the Authority's Representative and the return of such items by the Authority to Contractor, the Contractor shall make corrections indicated and shall furnish to the Authority the required number of corrected items.

B. Required Submittals include, but are not limited to, the following:

1. Submittal Schedule
2. Submittal Status Reports
3. Product Data
4. Samples
5. Shop Drawings
6. Calculations
7. Test Reports
8. Certifications
9. Inspection Reports
10. Qualifications
11. Record Documents
12. Operation and Maintenance Manuals
13. Warranties and Guarantees

C. Manufacturer's Safety Data Sheets (MSDS) for all products supplied for the Work are to be kept at the site available for inspection by the Authority, Department of Education personnel, and all workers.

1.02 DEFINITIONS

A. Unacceptable and Incomplete Submittals

Submittals that do not contain the required information specified herein, such as specification section and location of work, etc; or do not specifically indicate the actual item proposed; drawings that are only duplications of the Contract Drawings; and those shop drawings not prepared by specialty firms for items requiring such expertise (e.g. Reinforcing steel shop drawings to be prepared by a rebar detailer, structural steel to be by a steel detailer, etc) will be considered unacceptable or incomplete submissions.

1.03 SUBMITTAL SCHEDULE

A. Within thirty (30) days after the Notice to Proceed (NTP), the Contractor shall, unless otherwise directed by the Authority, submit a schedule showing the anticipated time of commencement and completion of all Submittals.

B. The sequence of the Submittals is to be reasonably prioritized to permit sufficient time for review, possible resubmission, and subsequent procurement of the items sufficiently in advance of the work without submitting too many items at one time. The Authority will review the schedule and make comments as necessary. Schedules indicating that an unreasonably large number of submittals for any particular trade are to be made at one time will be rejected.

C. The Submittal Schedule shall be coordinated with the Project Progress Schedules.

D. See paragraph 1.05G regarding time to be allocated for review of submissions by the Authority. Also incorporate the time required for review of Product Substitutions, which is described in Section S01630.

1.04 SUBMITTAL STATUS REPORTS

A. Starting two weeks after submission and acceptance by the Authority of the Submittal Schedule, the Contractor shall submit a bi-weekly Submittal Status Report, based on the Submittal Schedule, to the Authority's Field Representative containing the following information:

1. A list of all Submittals which have been sent to the Authority, giving name of the Subcontractor, Drawing number, title, scheduled submittal date, and actual date of submission.

2. An indication of the desired priority of the return, if necessary.

3. Overdue drawings ("Aged") are to be indicated in bold.

B. The Status Report shall be delivered to the Authority's Field Representative on days designated by the Authority's representative throughout the active period of Construction.

1.05 CONTRACTOR RESPONSIBILITY, GENERAL

A. The review of Submittals by the Authority, which will typically be by the appropriate Design Professional of Record for the item submitted except those to be reviewed by other Authority Departments, shall not relieve the Contractor of responsibility for (1) the accuracy and proper dimensioning; (2) for the proper fitting and construction of the Work; and (3) the furnishing of materials or Work required by the Contract and not indicated on the Shop Drawings. Approval of Submittals shall not be construed as approving departures from the Contract Drawings, Supplementary Drawings (Drawings initiated by change orders or Notice of Direction (NOD)) or Specifications.

B. The Contractor shall be responsible for coordinating all submissions of the various trades and subcontractors before submittal so as to avoid conflicting locations and routing of items and interferences between items and to ensure that the submissions are in accordance with the requirements of this Section. Corrections resulting from such conflicts and interference shall be made by and at the expense of the Contractor. The Authority reserves the right to withhold approval of a Submittal requiring coordination with other Submittals until all related Submittals are received.

C. It shall be the Contractor's responsibility to carefully review all Submittals to ensure conformance with the Contract requirements including verification of dimensions, clearances, compatibility, and coordination with other product data and shop drawings submitted for other work.

D. Submittals shall be marked to show the Contract name and number, the Contractor, and applicable subcontractor, manufacturer or supplier. Submittals shall completely identify the specification section, Contract Drawings, and the locations at which materials or equipment are to be installed.

E. Where printed materials describe more than one product or model, clearly identify which item is submitted for approval.

F. If the Authority finds a Submittal unchecked and incomplete or unacceptable, it will be returned to the Contractor for correction prior to any further processing or review by the Authority regardless of any urgency

claimed by the Contractor. In such a situation, the Contractor will be responsible for any resulting delays to the scheduled Contract completion. Furthermore, the Authority may hold the Contractor responsible for increased costs incurred by the Authority resulting from the Contractor's failure to comply with the requirements set forth herein.

G. The Contractor must schedule Submittals to allow fourteen (14) calendar days (excluding National Holidays), from the date received by the Authority's Professional of Record, for the review of each Submittal. Processing of incomplete or unacceptable submissions by the Authority shall not reduce the number of calendar days specified above for the Authority's review once the submission is properly made. Furthermore, the Contractor shall provide Submittals in accordance with the approved Submittal Schedule. Should the Contractor vary from the established schedule in its submissions, the Contractor understands that the Authority may require additional time for review as it deems necessary beyond that set forth above. This additional time shall in no way relieve the Contractor from performing its work on schedule. The Contractor may also request and pay overtime for the review to be done on an expedited basis. The Authority reserves the right to return to the Contractor submittals that are not sent in accordance with the accepted schedule. Resubmissions shall be treated the same as initial submissions with respect to time for review. Under no circumstances shall the Contractor be entitled to any extension of time or compensation for any delay in the review of a submittal caused by the Contractor's failure to submit in accordance with the accepted schedule or sufficiently in advance of the work to allow for the review and processing described above.

H. The Contractor shall clearly designate the trade that is to perform the work when the use of "Work by Others" or other similar phrases are indicated on Submittals to the Authority's Representative.

I. No portion of the Work shall commence until required Submittals are Satisfactory to the Authority.

1.06 AUTHORITY'S RESPONSIBILITY, GENERAL

A. The review of Submittals by the Authority will be for general conformance with the requirements of the Contract Documents only and shall not be interpreted as confirming

or approving detailed dimensions, quantities or approval of deviations from the Contract Documents. The Authority's review shall not relieve the Contractor of its responsibility for the accuracy of its submittals nor for the furnishing and installation of materials and equipment in accordance with the Contract Documents. The Authority's review of a separate item shall not be deemed to include a review of the complete assembly in which it functions.

1. Approval of Submittals shall not to be interpreted as approval of a substitute material or system indicated thereon. Approval of substitutions will be accomplished in accordance with the requirements set forth in Specification Section **S**01630, "Product Substitution".

2. Approval of a Submittal, with or without notation, does not acknowledge a change to the contract

B. The Authority will review and return to the Contractor satisfactorily prepared Submittals within twenty-one (21) calendar days (excluding National Holidays) after receipt by the Professional of Record (including transmittal time).

C. The Authority will review all satisfactorily prepared Submittals and will return each Submittal to the Contractor with a stamped comment indicating the Authority's response to the submission. The stamp will indicate one of the following responses:

1. "No Exceptions Taken" - The Work covered by the submittal may proceed to fabrication/ installation provided it complies with requirements of the Contract Documents. This review action does not authorize changes to Contract Sum or Contract time. ("Approved" or "Accepted" are alternate comments with the same meaning.)

2. "Make Correction Noted" - The Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract. The response indicates that portions of the submittal have been questioned and found to be in deviation/conflict with the requirements of the Contract Documents, notes have been added for clarity, and/or the submittal requires field verification. Resubmission is required only if the Contractor is

unable to comply with noted corrections. ("Approved as Noted - No Resubmission Required" is an alternate comment with the same meaning.)

3. "Rejected: Revise and Resubmit" - The response indicates that the submittal is deficient. Additional information is required to complete the review. Work covered by the submittal may not proceed - purchasing, delivery, fabrication, or installation MAY NOT be undertaken. The Contractor is to revise or prepare a new submittal according to the comments. ("Revise and Resubmit" is an alternate comment with the same meaning.)

4. "Rejected: Not acceptable for review" - The response indicates that the item does not meet the requirements of the Contract, or the submittal is incomplete and has not been reviewed. Do not proceed with the Work covered by the submittal - purchasing, delivery, fabrication, or installation MAY NOT be undertaken. Prepare a new submittal complying with the Contract requirements; resubmit immediately. ("Not Approved" is an alternate comment with the same meaning.)

D. Do not permit Submittals marked Rejected (or the similar terms listed above)" to be used at the Project site, or elsewhere where Work is in progress.

E. For unique conditions where long-lead fabrication items are sufficiently detailed to allow for fabrication but the installation details or other portions of the submittal are not sufficient for the entire submittal to be stamped as either C.1 or C.2 above, those drawings marked "rejected: revise and resubmit" may also have an additional marking or stamp indicating "Fabrication only may proceed", which will permit the item to be fabricated, dependant on meeting any corrections noted, but not delivered to the site. Any modifications required due to final means of installation shall be at the Contractor's cost.

1.07 SUBMITTAL SUBMISSION PREPARATION

A. Submittals shall be accompanied by a transmittal to the Authority requesting approval. Transmittals shall contain submittal items from only one Specification Section.

B. Each Submittal and transmittal shall be identified with the following information:

1. Project title.

2. Contract name and Contract number.

3. Date of the submittal, including dates of any revisions.

4. Name of Contractor, name of Subcontractor, material supplier and manufacturer, as applicable.

5. Name of person or firm preparing Submittal.

6. Contract Drawing numbers and Specifications, Section Division and Paragraph numbers used as references in preparing Submittal, and titles of items to which the Submittal refer.

C. One copy of all Submittal transmittals from the Contractor shall be delivered to the Authority's Field Representative.

D. If the Submittal shows variations from the Contract Documents, the Contractor shall make specific mention of such variations in the transmittal and shall flag them on the Submittal item so as to be readily apparent. It is not acceptable to include changes to the Contract Documents in the shop drawing in the hope they will be inadvertently approved. Changes must be adequately flagged through the RFI process. Product substitutions will be considered in accordance with Section S01630, "Product Substitutions".

E. Submit required data for each item as specified in the technical sections. However, if a product specified in the technical section by specific product name or model number is proposed for use, Manufacturer's test reports (except those required in the field to verify performance), manufacturer's qualifications, and samples (except for those requiring selection or approval of color, texture, appearance, or other variable characteristic, field mock-ups, and those showing thickness, fabrication shape, and type of material), are not required to be submitted. Exceptions are for items such as Rooftop DX units where the design parameters are developed per the project and must show all compliances.

1.08 RESUBMISSIONS

A. The resubmission procedure shall be the same as for the initial submission in all respects except the following:

1. The transmittal shall contain the same information as the first transmittal except that transmittal numbers shall run consecutively and the submission number shall indicate 2nd, 3rd, etc. submission. The drawing number/description shall be identical to the initial submission and the date shall be the revised date for that submission.

2. No new material, other than may be incidental to the required correction, shall be included on the same transmittal for a resubmission.

3. The Authority's review of resubmitted items shall generally be restricted to revisions to the original Submittal, unless the Contractor makes other revisions in addition to those indicated. All changes (revisions) to resubmitted items or the additional changes by the contractor must be clearly encircled, highlighted, or otherwise designated.

4. Submittals by the Contractor that by virtue of the review action assigned to it require an unreasonable number of reviews by the Authority (over 3 total - 1 initial, 2 resubmissions) may warrant a cost back-charge to be assessed against the Contractor. The Contractor shall be held liable for all delay and increased labor costs incurred by the Authority for additional review(s) of such Submittals including all legitimate overhead expenses and mark-ups associated with the additional review(s). If a submittal requires a third submission, the Authority may require a meeting to resolve the deficiencies in the submittal.

5. Under no circumstances will the Authority's reasonable rejection of a Submittal or requirement for resubmission of a Submittal be cause for any claim by the Contractor for an extension of Contract Time or adjustment to the Contract price.

1.09 PRODUCT DATA

A. See the individual technical Sections of these Specifications for those items of work requiring the submission of Product Data.

B. Compile Product Data into a single submittal for each element of construction or system. Product Data includes, among other information, printed information such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves. Where Product Data must be specially prepared because standard printed data is inadequate, submit as "Shop Drawings".

C. The Contractor shall submit six (6) copies of all Product Data.

1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:

a. Manufacturer's printed recommendations.

b. Compliance with recognized trade association standards.

c. Compliance with recognized testing agency standards.

d. Application of testing agency labels and seals.

e. Notation of dimensions verified by field measurement.

f. Notation of coordination requirements.

1.10 SAMPLES

A. See the individual technical Sections of these Specifications for those items of work requiring the submission of Samples.

B. Each Sample shall be labeled with the following information:

1. Project title.

2. Contract name and Contract number.

3. Date of submission.

4. Name and quality of the material.

5. Name of Contractor, name of Subcontractor, Material Supplier and Manufacturer, as applicable.

6. Contract Drawing numbers and Specification Section, Division and Paragraph numbers used as reference in preparing Samples.

C. Samples on Display: When Samples are specified to be equal to samples in the office of the Authority, they shall be carefully compared to such samples for verification that they are equal in all respects.

D. Samples shall be of sufficient size and quantity to show the quality, type, color, finish and texture of the material required to be furnished by the Contractor pursuant to the Contract. Furnish specific sizes and quantities where indicated in the respective technical Sections.

E. Valuable Samples, such as hardware, plumbing and electrical fixtures, not destroyed by inspection or test, will be returned to the Contractor and may be incorporated into the Work after all questions of acceptability have been settled, providing suitable permanent records are made as to location of the Samples, their properties, and other pertinent information.

F. Field samples (Mock-ups) required by individual Specification Sections are mock-ups erected on site to illustrate workmanship, finishes, coatings, or textures and to establish the standard by which the Contract Work will be judged. Mock-ups shall be provided in the sizes prescribed in the Contract or as may be required by the Authority. Comply with submittal requirements, and process transmittal forms to provide a record of the Submittal and subsequent review action.

G. Except for the field samples (mock-ups), provide three (3) samples of each item required to the Authority unless otherwise indicated.

1.11 SHOP DRAWINGS

A. See the individual technical Sections of these Specifications for those items of work requiring the submission of Shop Drawings.

B. Shop drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings. Shop Drawings shall show in detail, materials, dimensions, thicknesses, assembly, attachments, relation to adjoining work, and all other pertinent data and information. The Contractor shall check shop drawings, verify all dimensions and field conditions and check and coordinate the Shop Drawings of any Section or trade with the requirements of other sections or trades as related thereto, as required for proper and complete installation of the Work.

C. Prepare composite shop drawings and installation layouts, of ceiling finishes, trades above ceilings and elsewhere to depict proposed solutions for tight field conditions. These composite shop drawings and field installation layouts shall be coordinated in the field by the Contractor and its Subcontractors for proper relationship to the work of all other trades, based on field conditions.

D. Submit shop drawings, drawn to accurate scale. Reproductions of Contract Documents will not be acceptable.

E. The Contractor shall submit manufacturer's drawings and specifications when necessary to explain fully apparatus and equipment required by the Work. These manufacturer's drawings and specifications shall be treated as Shop Drawings. Manufacturer's catalog numbers alone are not acceptable as sufficient information for compliance with this requirement.

F. The Contractor shall submit six (6) prints of Shop Drawings to the Authority's designated Representative for review and approval. A satisfactory Shop Drawing will be stamped and dated; three (3) prints will be returned to the Contractor.

1. Provide clear and adequate space ($3^1/_2$ in. x 8 in. mim.) on submitted shop drawings for the Authority's review stamp.

2. The Contractor shall not use or distribute, for construction purposes, any shop drawings that do not include the Authority's approval stamp.

G. For shop drawings requiring resubmission, the Authority will return three (3) prints to the Contractor for revision, processing and resubmission. The Contractor shall be responsible for distributing prints of shop drawings to its Subcontractors and materials suppliers.

H. The Contractor shall bear all costs incurred for such reproduction and distribution. Prints of all reviewed shop drawings may be made from prints that carry the appropriate review stamps.

1.12 CALCULATIONS

A. See the individual technical Sections of these Specifications for those items of work requiring the submission of Calculations.

B. Only those Calculations that are for permanent parts of the Work will be reviewed by the Authority. These calculations will be reviewed only for compliance with stipulated design criteria.

C. The Contractor shall submit six (6) copies of all required Calculations to the Authority.

1.13 TEST REPORTS

A. See the individual technical Sections of these Specifications for those items of work requiring the submission of Test Reports.

B. The Contractor shall submit six (6) copies of all required Test Reports.

1.14 CERTIFICATIONS

A. See the individual technical Sections of these Specifications for those items of work requiring the submission of Certifications.

B. The Contractor shall submit to the Authority six (6) copies of all required Certifications.

1.15 INSPECTION REPORTS

A. See the individual technical Sections of these Specifications for the items of work subject to inspections by manufacturers or other entities.

B. The Contractor shall submit to the Authority six (6) copies of all required Inspection Reports.

1.16 QUALIFICATIONS

A. See the individual technical Sections of these Specifications for requirements concerning the qualifications of the entities performing items of the work.

B. Qualifications for companies shall be a list of projects with references that verify the project requirements are met. Where the qualification is for a licensed professional, submit a copy of the license and resume.

C. The Contractor shall submit to the Authority three (3) copies of all required Qualifications.

1.17 RECORD DOCUMENTS

A. See the individual technical Sections of these Specifications and Section G01720 for requirements concerning Record Documents.

1.18 OPERATION AND MAINTENANCE MANUALS

A. See the individual technical Sections of these Specifications and Section S01730 for requirements concerning submission of Operation and Maintenance Manuals.

1.19 WARRANTIES & GUARANTEES

A. See the individual technical Sections of these Specifications and Section G01740 for those items of work requiring the submission of Warranties and/or Guarantees.

1.20 SUSTAINABILITY SUBMITTALS

Not used.

END OF SECTION

SECTION S01312
PROGRESS SCHEDULE

1.01 METHODS

A. The Contractor shall comply with project schedule development and updating requirements as specified herein.

B. The Contractor shall employ or retain the services of a Construction Scheduler with verifiable construction scheduling experience, subject to review and acceptance by the Authority. Upon request, the Contractor shall provide the Authority with identification, qualifications and experience of the proposed scheduling staff member(s).

C. The Detailed Project Schedule shall be developed using a current version of Primavera P3 or P6. This schedule shall be developed using accepted CPM (Critical Path Method) techniques using the precedence diagramming method.

D. Once the Detailed Baseline Project Schedule is accepted, Progress Updates shall be submitted at a frequency specified by the Authority, normally at one-month intervals, until Final Completion is achieved or as directed by the Authority.

1.02 PROGRESS SCHEDULE PREPARATION TIMETABLE

A. As used in this Specification Section, "days" mean consecutive calendar days while "working days" are days excluding non-working time (weekends and holidays).

B. Upon receipt of Notice to Proceed (NTP), the Contractor or its designee shall promptly prepare a Preliminary Project Schedule and subsequently a Detailed Project Schedule and shall submit for the Authority's acceptance as follows:

1. Submit the Preliminary Project Schedule not later than twenty-one (21) days from the NTP. (Refer to Article 1.03)

2. Submit the initial Detailed Project Schedule (when accepted by the Authority, this will be the Detailed Baseline Project Schedule) no later than

forty-five (45) days from the NTP the. (Refer to Article 1.04)

3. The Contractor shall make all submissions of schedules, corrections, and revisions required by the Authority to ensure that the Baseline Detailed Project Schedule will be accepted within and not later than seventy-five (75) days from the NTP.

C. Failure of the Contractor to comply with initial schedule requirements of this Article or the required time for revisions to the schedule as specified within this Section may result in the Authority withholding an appropriate portion of payment due the Contractor until such time as the Contractor submits the required information and said information is accepted by the Authority.

D. The Authority will accept the submitted information only after all corrections have been made and any issues resolved. The Authority may also find the Contractor in default if items in this Section are not completed.

1.03 PRELIMINARY PROJECT SCHEDULE DEVELOPMENT

A. The Preliminary Project Schedule shall be a detailed plan of operations for the first ninety (90) days after NTP as well as a summary level (CSI level 3 or 4) detailed description of the major activities for the remainder of the Work.

B. The Preliminary Project Schedule will be reviewed by the Authority and returned with comments as necessary. Information from the Preliminary Project Schedules will be the general foundation for development of the Detailed Project Schedule.

1.04 DETAILED PROJECT SCHEDULE DEVELOPMENT

A. The Detailed Project Schedule shall be the Contractor's working schedule and shall be used to plan, organize, execute and track the project. The Detailed Project Schedule is the primary vehicle used to report actual performance, progress, and convey the Contractor's execution plan to complete all remaining Work.

B. The Detailed Project Schedule shall be developed to show the sequence in which the Contractor proposes to carry out the Work, and account for any major and intermediate milestone activities, restrictions of access, availability of work areas and the availability and use of manpower, materials and equipment.

C. The General Contractor shall represent that all involved subcontractors have knowledge of the accepted Baseline Detailed Project Schedule and updates and are in agreement.

D. The amount of detail shall be to the satisfaction of the Authority and shall include:

1. Contract major milestones as indicated in Article 1.06 must be identified, depending on the Project Type, and included in the schedule.

2. All purchase, manufacture, and delivery activities for all major materials and equipment.

3. Deliveries of owner-furnished equipment and/or materials.

4. Preparation, submittal, and approval of shop drawings, material samples and safety plans.

5. Approvals and permits required by regulatory agencies or other third parties.

6. Actual tests, submission of test reports, and approval of test results.

7. Commissioning of each mechanical and low-voltage system is to be clearly delineated and scheduled such that they will be completed prior to substantial completion.

8. Completion of all items required for substantial completion.

9. Complete close-out of regulatory and punch list items prior to final payment and transfer of the project.

E. Activities identified in the Detailed Project Schedule shall have the duration in units of whole working

days. Construction activity durations shall not exceed ten (10) working days unless specifically permitted by the Authority. This is to ensure that activities are not generalized and each activity and sub-activity are defined as narrowly as reasonable to facilitate schedule tracking), except in the case of non-construction activities such as procurement of materials, delivery of equipment, concrete curing, etc. Activity Duration shall be based on the available resources required for performing each activity and shall be the result of definitive manpower and resource planning by the Contractor to perform the Work in consideration of contractually defined on-site work conditions.

F. Activity descriptions shall completely indicate the work to be performed and the location(s) at which it will be done.

G. Float or slack, if available in the schedule, shall not be considered for the exclusive use or benefit of either the Authority or the Contractor.

1.05 SCHEDULE P3/P6 ACTIVITIES CODING STRUCTURE

A. Activities shall be coded to facilitate selection, sorting and preparation of reports. The following activity coding scheme shall be used:

RESP Responsibility - Identify Contractor, Authority, Subcontractor, etc. responsible for the Work.

PHAS PHASE - Breakdown of activities into Milestones, Pre-Construction, Procurement, Construction and Closeout Activities.

LOCN Location - Floor (if required, may be included in area depending on the size of the project).

AREA Area - Subdivision of PHASE including milestones, permits, subcontractor approvals, submittals fabrication and delivery. Subdivision of the site and buildings into logical modules such as blocks, wings.

TRAD Trade by CSI Code or Specification Section.

B. Activity coding schemes must be submitted with the Preliminary Project Schedule. A meeting may be

requested by the Authority to discuss the schemes and other schedule information prior to approval of the coding scheme. The Authority will review the coding scheme within five (5) working days after this meeting or submission. The accepted coding scheme must be incorporated into the Detailed Project Schedule.

1.06 MAJOR MILESTONES

A. The following is a list of Major Milestones and activity groups that the Contractor is obligated to include and maintain in the Detailed Project Schedule Submission. However, the content of the schedule shall not be limited to this list. The Authority may change, add, or modify the milestones and activity groups as required:

Major Common Milestones / Activities Groups (Utilize as applicable)	
I. MAJOR MILESTONES	
	NTP
	DOB Permit & Insurance
	Mobilization
	Subcontractor 'Buyout'
	Site preparation
	Procurement Long Lead Items
	Site Safety Plans
	Shop Drawings Submittals / Approvals
	Abatements
	Site Demolition
	Inspection
	Site Safety
	Check List
	Fire Inspection
	Engineering Inspection
	Testing & Inspection
	Final Cleanup
	Punch-list
	Utility Testing
	FID Inspection/Approval
	P/L & Agency Sign - offs
	Substantial Completion
	Final Completion
II. ACTIVITY GROUPS	

Major Common Milestones / Activities Groups (Utilize as applicable)	
1. State of Good Repair	
B.	**Major Modernization and Rehabilitation**
1B1	**Full Modernization**
	Side Walk bridging
	Aluminum Window Procurement
	Cast Stone Procurement
	Brick Procurement
	Scaffolding
	Parapet Demolition
	Parapet Restoration
	Masonry Restoration & Pointing
	Window Abatement
	Window Installation
	Pre-roofing Meeting
	Roofing Installation
	Roof Testing
	Interior Abatement
	Interior Finishes
1B2	**Interior Modernization**
	Interior General Construction
	Interior Finishes
	Interior Demolition - M.E.P. Systems
	Interior Roughing - M.E.P. Systems
	Interior Finish - M.E.P. Systems
	Commissioning of Systems
1B3	**Exterior Modernization**
	Aluminum Window Procurement
	Cast Stone Procurement
	Brick Procurement
	Scaffolding
	Parapet Demolition
	Parapet Restoration
	Masonry Restoration & Pointing
	Window Installation
	Pre-roofing Meeting
	Roofing Installation
	Interior Abatement
	Interior Finishes
C.	**Building Upgrade**
1C1	**Asbestos**
	Interior Abatement
	Interior Demolition
	Interior General Construction
	Interior Finishes
	Exterior Abatement
	Exterior Demolition

Major Common Milestones / Activities Groups (Utilize as applicable)	
	Exterior Construction
1C9	**Reinforcing Cinder Concrete Slabs**
	Cinder Concrete
	Form Work
	Concrete Repair
	Reinforcing Concrete Slab
	Remove Form
	New Concrete
	External Wall
	Internal Wall
1C10	**Flood Elimination**
	Waterproofing Procurement
	Install Waterproofing System
1C12	**Lead Paint Abatement**
	Clearance
	Dust Wipe
	Target (Classrooms)
1C13	**Reinforcing Support Elements**
	Exterior Abatement
	Exterior Demolition
	Exterior Construction
	Interior Abatement
	Interior Demolition
	Interior General Construction
	Interior Finishes
D.	**Rehabilitation of Physical Education Facilities**
E.	**System Replacements**
1E1	**Roofs**
	Roofs Replacement
	Pre-roofing Meeting
	Roofing Installation
	Roof Testing
1E2	**Parapets**
	Cast Stone Procurement
	Scaffolding
	Parapet Demolition
	Parapet Restoration
1E3	**Painting and Plastering**
1E4	**Windows**
	Window Replacement
	Aluminum Window Procurement
	Window Abatement
	Window Installation
	Window Testing
	Interior Abatement
	Interior Finishes

Major Common Milestones / Activities Groups (Utilize as applicable)	
1E5	**Exterior Masonry**
	Brick Procurement
	Scaffolding
	Masonry Restoration & Pointing
	Masonry Wash down
1E6	**Electrical Systems**
	Abatement
	Pull Wires
	Install Switchboard
	Install Service Entry
	Con Edison Connections
	Electrical Systems - Wiring
	Electrical Systems - Switchboard
	Electrical Systems - Service Entry
1E8	**Domestic Piping**
	Abatement
	Install Piping
	Install Valves
	Install Water Heater
	Install Sprinkler heads
	Install RPZ valves
	Install Yard Drains
	Domestic Piping - Valves
	Domestic Piping - Water Heater
	Domestic Piping - Sprinklers
	Domestic Piping - RPZ Valves
	Domestic Piping - Yard Drains
1E11	**Floors**
	Floors - Classroom
	Flooring Procurement
	Classroom Furniture Removal
	Classroom Floor Abatement
	Classroom Floor Repairs
	New Classroom Floor Installation
	Wax & Polish New Classroom Floor
	Classroom Furniture Installation
1E12	**Paved Areas - Blacktop**
1E13	**Paved Areas - Concrete**
	Underground Utilities
	Substructure Excavation
	Foundation and Substructure
	Concrete Finishing
	Landscaping
	Street Restoration
	Paved Areas - Concrete - Retaining Wall
	Paved Areas - Concrete - Sidewalk
1E16	**Containerization**

Major Common Milestones / Activities Groups (Utilize as applicable)	
	Procure Equipment
	Install Interior Equipment
	Install Sitework
2. System Expansion	
B. Common Facilities - Additions	
C. New Physical Education Facilities	
D. Common Facilities - Building Add/Mod	
4. Safety and Security	
A. Safety and Security	
4A1	**School Safety**
	School Safety - Intrusion Alarm
	School Safety - Exterior Doors
	School Safety - Security Lighting
	School Safety - Window Guards
	Utility Shut Downs
	Structural Work
	MEP Roughing
	Carpentry Roughing
	Finishes
	Special Eqpt
	Commissioning of Systems
4A2	**Emergency Lighting & Fire Safety Retrofits**
	Fab & Dely-(LLI) Major Matl & Eqpt
	Owner Deliverables
	Site Protection(in-Place)
	Utility Shut Downs
	Structural Work
	MEP Roughing
	Fire Prot. PPG Roughing
	Carpentry Roughing
	Finishes
	Fire Prot. PPG Finishes
	Special Eqpt
	Commissioning of Systems

1.07 TWO-WEEK LOOK-AHEAD

A. The Contractor shall provide a two-week look-ahead of activities planned over the following two weeks on a bi-weekly basis.

1.08 SUBMITTALS

A. The Preliminary Project Schedule is to be submitted in hard copy and in electronic format on CD-ROM/DVD or other media accepted by the Authority.

B. Detailed Project Schedule

1. For each submittal of the Detailed Project Schedule, the following layouts, reports, graphics are required and shall be included.

   a. Detailed Activity Layout - All activities grouped by Activity Code (Article 1.05) and then sorted by Early Start, Early Finish, and then Total Float. Each line shall display the Activity ID, Responsibility Code, Description, Original Duration, Remaining Duration, Early Start, Early Finish, and Total Float. The barchart area shall contain the early and float bars.

   b. The Authority may request additional reports from time to time limited by the capabilities of Primavera Systems at no additional cost. The Contractor shall furnish two copies of the complete progress schedule as outlined above with each initial submittal and each update.

   c. In addition, the Monthly Update submittal shall contain a Narrative Report including:

      1) A discussion of progress through the update period and status of the project with respect to completion of the schedule.

      2) A discussion of changes, delays or other circumstances affecting Progress.

      3) A listing of modifications to the previously submitted network including logic changes and activity additions, deletions or modifications.

      4) A tabular listing of all activities showing Activity ID, Original Duration, Remaining Duration, Calendar, Percent Complete, Activity Description, Early Dates, Late Dates, and Total Float, sorted by Activity ID.

2. For each schedule submittal, the Contractor shall provide a copy of the computer file(s) in

electronic format on a CD-ROM/DVD, or other media accepted by the Authority. When opened, the electronic submittal must provide flawless restoration of the native P3 or P6 files and an electronic copy of the Narrative Report.

3. Each electronic submission of the Detailed Project Schedule shall be assigned with a unique file name clearly marked (i.e.; B000 = B/L rev0, B001 = B/L rev01 etc.) to indicate the specific submission. Similarly, update submittals shall be named Uxxx where xxx is a sequential number, starting with 001, indicating the revision or issue number.

4. If additional submittals are necessary, the Contractor shall provide an electronic copy for each submittal and hard copy of all the above in duplicate.

C. Two-week Look-ahead schedules are to be submitted in hard copy format.

1.09 ESTABLISHING THE DETAILED BASELINE PROJECT SCHEDULE - REVIEW PROCESS

A. The Authority will normally return comments within ten (10) working days after receipt of the initial Detailed Project Schedule Submission. If any of the required submissions are returned to the Contractor for corrections or revisions, they shall be resubmitted within ten (10) working days from receipt of comments. Each resubmittal shall comply with the requirements enumerated in Article 1.08 above. Review and response by the Authority will be given within ten (10) working days after resubmission.

B. At the request of the Authority, the Contractor shall be required to participate in project meetings necessary to obtain an acceptance of the above noted submittals.

1.10 DETAILED PROJECT SCHEDULE UPDATING

A. The initial updating shall take place immediately after the Authority accepts the Contractor's Detailed Project Schedule as Baseline. The data (status) date for the first update shall not exceed seven (7) days

from the date of receipt of the accepted Baseline Schedule.

B. Subsequent updates of the Detailed Project Schedule shall be made at the end of each progress payment period, until Substantial Completion is achieved. Updates should reflect actual or reasonably anticipated progress as of the last working day of the period. Monthly required Reports shall be submitted to the Authority within five (5) working days following the end of the reporting cycle. Failure to comply with this requirement may result in the issuance of a credit change order for the cost of the update or withholding all or a portion of said progress payment, at the sole discretion of the Authority.

C. The Detailed Project Schedule shall be reviewed jointly by the Contractor and the Authority's field representative to verify:

1. Actual start dates.

2. Actual completion dates.

3. Cost value of Work reported in place (if required).

4. Activity percent completion.

5. Revised logic (as-built and projected) and changes in activity duration, cost, and manpower assigned.

D. In addition, the Contractor and Authority field representative shall:

1. Assess change order schedule impact if any.

2. Confirm revisions due to unauthorized modifications.

3. Incorporate accepted time extensions.

E. If, in the estimation of the Authority, a project slips to a point where the critical path is a negative four (4) weeks and thus jeopardizes the timely completion of the project, the Contractor shall, at no additional cost to the Authority, submit a resource

and cost-loaded Detailed Project Schedule, depicting the manpower and dollars required to recover and complete.

F. If deemed necessary by the Authority, the Contractor shall continue to provide monthly updates of the resource and cost-loaded Detailed Project Schedule to show actual progress, actual manpower and dollar expenditures as well as updated estimates of labor required to complete on an activity-by-activity basis.

1.11 CHANGES, DELAYS, CLAIMS AND TIME EXTENSIONS

A. When changes or delays are experienced and a Notice of Direction (NOD) is executed by the Authority, the Contractor must submit a Time Impact Analysis. This analysis must include a written narrative and supporting schedule fragnet detailing the anticipated impact of the change(s), if any.

B. The impact schedule developed by the Contractor must incorporate activities representing the related changes to the Scope of Work and/or delays, if any, into the current accepted Detailed Project Schedule. The fragnet submitted as part on the Impact Analysis must illustrate the impact of these change or delays on Substantial Completion.

C. Each Time Impact Analysis shall be submitted within twenty (20) working days after a delay occurs and/or after an NOD or change order is issued to the Contractor.

D. In the event that the Contractor does not submit a Time Impact Analysis requesting additional compensation and/or an extension of time with ninety (90) days after an NOD or change order is issued to the Contractor, the Contractor shall be deemed to have waived any claim or right to additional compensation and/or extension of time, and no additional compensation and/or extension of time shall be granted.

E. Evaluation of each Time Impact Analysis by the Authority will be made within fifteen (15) working days after receipt unless the Authority determines that additional information or meetings and negotiations are necessary. Any change order, if required shall be issued by the Authority. Upon

Authority acceptance, fragnets illustrating the influence of changes and delays shall be incorporated into the Detailed Project Schedule during the next update.

F. In the event the Contractor does not agree with the decision of the Authority regarding the impact of a change or delay, the Contractor may seek resolution of the disputes in accordance with the Contract.

END OF SECTION

* * *

SECTION S01400
QUALITY CONTROL

1.01 SUMMARY OF WORK

A. Provide for testing and quality control as specified herein and in the various Specification Sections of Divisions 2 through 16. Cooperate with the Authority and its representatives in performing Special Inspections and other quality control inspections designated to be the Authority's responsibility.

B. If initial testing for a product, system, equipment, or item results in failure, the Contractor shall pay for all costs for subsequent retesting until approval is obtained. No part of the time lost to retesting shall be made the subject of claim for extension of time or for excess costs or damages by Contractor.

C. Inspections and tests performed by the Authority in no way relieve the Contractor of the responsibility to construct in accordance with the Drawings and Specifications and Contractor expressly understands that there is no warranty given by the Authority to the Contractor in connection with such inspection and tests or certifications made under Controlled Inspection or other quality control inspection.

1.02 SPECIAL INSPECTIONS

A. Items designated for "Special Inspection" under the provisions of the New York City Building Code shall be inspected, tested and witnessed by or under the supervision of a Special Inspector.

B. The Authority will select Special Inspection Agencies and pay for all Special Inspection services required for the project except for the following Special Inspections, for which the Contractor shall obtain and pay for all such services: "Excavation - sheeting shoring, and bracing", "Stability and Integrity of Existing Structures During Construction Operations", "Underpinning ", and "Mechancial Demolition".

C. The Special Inspector, whether engaged by the Authority or Contractor, is to file all initial amendments or Statements of Responsibility Form TR-1, properly executed, before work commences and all final amendments immediately upon completion of work with the Building Department. A copy of each approved amendment or Form

TR-1 must be on file with the Authority's Building Code Compliance division before work commences and copies of final amendments or TR-1 Forms must be on file before final acceptance of the Work.

D. Special Inspectors, as defined in Chapter 1 of Title 28 of the Administrative Code, are to be individuals having required qualifications and authorized by the NYC Building Department to perform or witness particular special inspections required by the NYC Building Code. The Special Inspector shall keep records of inspections for the period of six years from the date of project sign-off. They are to be filed with the N.Y.C. Department of Buildings and/or have such reports be otherwise made accessible for review. Reports shall indicate that work inspected was done in conformance with approved construction documents. Discrepancies are to be brought to the immediate attention of the Contractor for correction. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the Authority and the Engineer of Record prior to the completion of that phase of the work. Special inspection reports and records are to be in the form and format supplied by the Building Department.

1. The Special Inspector shall report conditions noted as hazardous to life, safety on health, to the immediate attention of the commissioner.

2. Reports of partially completed work shall be accepted when such reports indicate the code compliant status of completed work and the condition of the remaining work.

E. The Contractor shall submit a statement of special inspections as a condition for permit insurance on forms supplied by the NYC Department of Buildings for work listed under section BC 1704 for those inspections the Contractor is responsible for.

F. As described in BC 1704 of the 2008 NYC Building Code, Special Inspection for an item may be designated either as continuous requiring full time observation by a Special Inspector who is continuously present in the area where the work is being performed or as periodic requiring intermittent observation where the work has been or is being performed and at the completion of the work.

G. The Special Inspector shall be acceptable to the registered design professional of record. The design professional and Authority reserves the right to interview the proposed inspector and if deemed not acceptable, a new inspector meeting the requirements for Special Inspector for the required task shall be proposed.

1.03 ADDITIONAL QUALITY CONTROL TESTING AND INSPECTION

A. Additional quality control testing and inspection is specified in the various Specification Sections of Divisions 2 through 16. Unless such testing and inspection is specifically identified as the responsibility of the Authority, it shall be the Contractor's responsibility to perform all such testing and inspection.

B. Whenever the Contractor is required by these Specifications to perform testing or inspections, it shall engage an independent experienced laboratory or professional engineer/architect to perform such testing and inspection. The Contractor's (or Subcontractors') own staff shall not perform specified inspections and testing.

1.04 CONTRACTOR RESPONSIBILITY FOR ACCOMODATING TESTING AND INSPECTION

A. The Contractor shall provide cooperation, access, and submittals necessary for the Authority and its agents to perform all inspections and testing in accordance with requirements listed herein, as well as providing all fuel and material.

B. The Contractor shall notify the Authority's Project Officer, or Inspection Agency if so directed by the Project Officer, at least 48 hours before the specific work item commences for which inspection is required.

C. Once inspections to be made by the Authority's Inspection Agency have been ordered out by the Contractor and a cancellation follows, the Contractor will be charged the rate charged to the Authority for each person so ordered to appear, unless a cancellation order is issued to the Inspection Agency 24 hours before the requested service time.

1.05 MANUFACTURERS' FIELD OBSERVATIONS AND TESTS

A. The Contractor shall ensure that the manufacturers provide observations and tests as specified in the respective technical Sections.

B. Documentation generated by observations and tests, including test reports, shall be incorporated into the Quality Control Report prepared by the Contractor's Quality Control Representative.

1.06 MOCK-UPS AND FIELD SAMPLES

A. Provide mock-ups and field samples as specified in the respective technical Sections.

B. Review actions, including disapprovals and/or approvals must be documented in the Quality Control Report prepared by the Contractor's Quality Control Representative.

1.07 ACCEPTANCE TESTS

A. Governmental Agencies

All equipment and appliances furnished and installations made under the Contract shall conform to the requirements of the Specifications, and shall in any event be not less than that necessary to comply with the minimum requirement of all governmental agencies having jurisdiction.

B. Notice of Tests

Whenever the Specifications or any governmental agency having jurisdiction requires the acceptance test, Contractor shall give written notice **72**—hours in advance to all parties concerned of the time when these tests will be conducted.

C. Utilities and Instruments

The Contractor shall furnish energy, fuel, oil, water, air, smoke, light and electrical instruments as required for all testing.

D. The Contractor shall furnish labor, material, and instruments necessary to conduct the acceptance tests at no additional cost to the Authority.

E. Certificates

The final acceptance by the Authority shall be contingent upon the Contractor delivering to the Authority all necessary certificates evidencing compliance in every respect with the requirements of the agencies having jurisdiction. All such certificates shall be documented on the Quality Control Report prepared by the Contractor's Quality Control Representative.

1.08 CONTRACTOR QUALITY CONTROL (CQC) SYSTEM

A. General

The Contractor shall establish and maintain an effective quality control system in order to furnish the Authority with a quality product constructed in accordance with the Contract Documents. The quality control system shall consist of plans, procedures, and organization necessary to provide materials, equipment, workmanship, fabrication, construction, and Commissioning operations that comply with the contract requirements. The system shall cover all construction operations, both on-site and off-site, and shall be keyed to the proposed construction sequence.

B. Coordination

At the Preconstruction Meeting, before start of construction and prior to acceptance by the Authority of the Contractor's Quality Control Plan, the Contractor shall meet with the Authority's Project Officer (PO) and designated Field Representative (FR) to discuss Contractor's quality control system. During the meeting a mutual understanding of the system details shall be developed, including the forms for recording the CQC daily operations, control activities, testing, administration of the system for both on-site and off-site work, and the interrelationship of Contractor's Management and control with the Authority's Construction Management, Architectural and Engineering, and Quality Control/Quality Assurance operations. Minutes of the meeting will be prepared by the Authority and signed by Contractor, the Project Officer and Field Representative. The minutes shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings.

C. Contractor Quality Control Plan

The Contractor shall furnish for acceptance by the Authority's Project Officer, not later than 30 days after date of Notice to Proceed, a Contractor Quality Control (CQC) Plan, which the Contractor proposes to use to implement the Contract requirements. The plan shall identify personnel, procedures, controls, instructions, records, and forms to be used. Construction will be permitted to begin only after acceptance of the CQC plan or acceptance of an interim plan applicable to the particular feature of work to be started.
This plan shall include, as a minimum, the following to cover all construction operations, both on-site and off-site, including work by subcontractors, commissioning consultants, fabricators, suppliers and purchasing agents:

1. A description of the quality control organization, including a chart showing lines of authority and communication within the Contractor's project management and quality control organizations, and their relationship to the Authority's Project Management, Architecture and Engineering, and Quality Assurance/Quality Control Units.

2. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.

3. A document executed by an executive of the Contractor having signatory authority issued to the Contractor's Quality Control Representative initiating the authority to implement all phases of the Quality Control Plan, including the three phase control system, consisting of preparatory, initial and follow-up inspections for all aspects of the work specified.

4. Procedures for scheduling and managing submittals, including those of subcontractors, off-site fabricators, suppliers and purchasing agents.

5. Schedules for the Authority's "Special" and "Quality Control Inspections", and tests and schedules for Contractor inspection tests, manufacturer's tests, acceptance tests. Schedules shall include the test name, specifications paragraph requiring tests, feature of work to be tested, test frequency and individual or testing

laboratory (including telephone number) responsible for each test.

6. System and procedures for tracking control tests and first two inspection phases.

7. System and procedures for tracking construction deficiencies and corrective action taken for each.

8. Reporting procedures, including proposed reporting formats. See Paragraph K this article hereinafter for documentation requirements.

9. A list of features of work. A feature of work is a task that is separate and distinct from other tasks and has separate control requirements. As a minimum, each Section of the Specifications shall be considered as a feature of work. However, there may be more than one feature under a Section of the Specifications.

D. Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction and after the coordination meeting is held. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Authority reserves the right to require Contractor to make changes in the CQC plan and operations, including any person assigned a CQC function as necessary, to obtain the quality specified.

E. Notification of Changes

After acceptance of the CQC plan, the Contractor shall notify the FR in writing a minimum of seven calendar days prior to implementation of any proposed change. Proposed changes are subject to acceptance by the Project Officer after review and recommendation by the FR.

F. Quality Control Organization

1. CQC Organizational Staffing

The Contractor shall designate and identify a CQC representative based on the criteria established herein:

The CQC Representative, who may be the Superintendent or an experienced, responsible

person and shall be at the site of work at all times during progress, with complete authority as demonstrated in the authorization letter signed by a signatory of the Contractor to take any action necessary to ensure compliance with the contract and act in all CQC matters

2. Providing the CQC representative in no way relieves the Contractor of meeting the basic requirements of quality construction in accordance with Contract requirements. Names and qualifications (provided in Resume format) of the entire CQC staff, including supplemental inspection specialists, and testing personnel other than the Special Inspectors, shall be part of the CQC plan.

3. The Contractor shall provide qualified inspection specialists, who may be subcontract foremen, as necessary to assure Contract compliance when electrical and mechanical work is being installed. These specialists shall have a minimum of five (5) years at the skilled-craft or foreman level or hold engineering degrees. Names and qualifications in Resume format shall be submitted as part of the CQC Plan.

G. Submittals

Submittals shall be as specified in Section **S**01300. The CQC representative shall be responsible for certifying that all submittals are in compliance with the **C**ontract requirements.

H. Control

Contractor Quality Control is the means by which **the** Contractor assures that the construction, including work of subcontractors and suppliers, complies with the requirements of the Contract. The controls shall be adequate to cover all construction operations, including both on-site and off-site fabrication, and will be keyed to the proposed construction sequence. The controls shall include at least three phases of control to be conducted by the CQC representative for all features of work and include as a minimum the following:

1. First Phase Control: This first or preparatory phase of control shall be performed prior to beginning work on each feature of work. It shall include:

a. A review of each paragraph of applicable specifications. Resolve differences, if any.

b. A review of the Contract Drawings. Resolve differences, if any.

c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.

d. A check to assure that provisions have been made to provide required testing and the Authority "Special Inspections and tests". The schedule for "Special Inspections" and quality control services will be reviewed for completeness and timeliness.

e. Examination of the work area to assure that all required preliminary work has been completed in accordance with the Contract Documents. Deficient work shall not be built upon.

f. A physical examination of required materials, equipment, and sample work to assure that they are on hand and conform to approved shop drawings or submitted data.

g. A review of the appropriate activity hazard analysis to assure safety requirements are met.

h. Discussion of procedures for constructing the work.

i. A check to ensure that portion of the plan for the work to be performed has been accepted by the Field Representative.

j. The Authority's designated Field Representative shall be notified by the CQC representative and a preparatory meeting scheduled at least two weeks in advance of initiating any of the required actions for this first phase of inspection. This preparatory meeting shall be conducted jointly by the CQC representative and the Authority's FR and shall be attended by other CQC personnel as applicable, including the foreman

responsible for the feature of work. The results of the meeting shall be documented by separate minutes prepared by the CQC representative and attached to the CQC report.

Subsequent to this meeting and prior to commencement of work, Contractor shall instruct applicable workers as to the acceptable level of workmanship required in the CQC plan in order to comply with the Contract Documents.

2. Second Phase Control: The second or initial work phase of control must be accomplished at the beginning of a feature of work. It shall include:

   a. A check of preliminary work.

   b. Verification of full contract compliance for initial construction.

   c. Establish quality of workmanship.

   d. Resolve any differences that may still exist.
   e. Check safety to include compliance with safety plan and activity hazard analysis.

   f. The FR shall be notified by the CQC representative at least 48 hours in advance of beginning the second phase. Separate minutes of this phase shall be prepared by the CQC representative and attached to the CQC report. The second phase shall be repeated for each new crew to work on-site, or any time acceptable specified quality standards are not being met.

3. Third Phase control: The third or follow-up phase of control consists of daily checks being performed to assure continuing compliance with Contract requirements, including control testing, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work that may be affected by the deficient work.

4. Supplemental phases of control: Resumption of work after a substantial period of inactivity or changes

to Contractor's quality control plan and personnel may necessitate the need for reconfirming the first and second phases of control.

I. Testing Procedure

Other than "Special Inspections" and other testing and inspection explicitly assigned to the Authority, the Contractor shall perform all tests and inspections specified or required to verify that measures are adequate to provide a product that conforms to Contract requirements. A list of tests including the Authority "Special Inspections" to be performed shall be furnished as a part of the CQC plan to the Project Officer.

1. The list shall include the test names, frequency, specifications paragraph containing the test requirements, and the personnel and industry recognized testing laboratory responsible for each type of test.

2. Results of all tests taken, both passing and failing tests, will be recorded on Contractor's Quality Control report for the date taken. Specifications paragraph reference, location where tests were taken, and the sequential number identifying the test will be given. Actual test reports may be submitted later, if approved by the FR, with a reference to the test number and date taken. An information copy of tests performed by an off-site or commercial test facility will be provided directly to the FR. Failure to submit timely test reports, as stated, may result in nonpayment for related work performed and disapproval of the test facility for this Contract. Costs incidental to transportation of Samples or materials will be borne by the Contractor.

J. Completion Inspection

Prior to completion of all work or any increment thereof established by the completion time stated in Contract Specifications, the CQC representative shall conduct a preliminary completion inspection of the work and develop a list of deficiencies that do not conform to the approved Drawings and Specifications. Such a list of deficiencies shall be included in the CQC documentation and shall include the estimated date by which the deficiencies will be corrected. The CQC representative and the Authority's FR shall jointly perform a second

completion inspection to ascertain that all deficiencies noted on the Contractor's and the Authority's FR list of deficiencies have been corrected.

1. A blank form for listing outstanding deficiencies, which is to be incorporated and utilized in the CQC Plan, is attached at the end of this Specifications Section.

2. The completion inspection and any deficiency corrections required by this Paragraph **shall** be accomplished within the time stated for completion of the entire work or any particular increment thereof if the Project is divided into increments by separate interim completion dates.

K. Documentation:

1. The Contractor shall maintain current daily records of quality control operations, activities, and tests performed, including the work of Subcontractors and suppliers and submit daily CQC reports to the Authority's designated Field Representative as noted herein.

2. All documents and records compiled to create a complete CQC Report shall be on an acceptable form and shall accompany the Contractor's Daily Reports required in Section G01015. The CQC Reports shall include factual evidence that required quality control activities and/or tests have been performed, including but not limited to the following:

   a. Test and/or control activities performed with results and references to Specifications /Drawings requirements. The control phase shall be identified. List deficiencies noted along with corrective action.

   b. Material received with statement as to material acceptability and storage.

   c. Identification of submittals reviewed, with contract reference, by whom, and action taken.

   d. Off-site surveillance activities, including actions taken.

e. Job safety evaluations stating what was checked, results, and instructions or corrective actions.

f. Instructions given/received and conflicts in Drawings and/or Specifications.

g. Contractor's verification statement shall be included above the CQC representative signature and shall indicate the following Contractor's verification: "The above report and attachments are complete and all supplies, materials, equipment and workmanship incorporated into the work are in full compliance with the Contract requirements except where noted". Deficiencies shall be entered on the blank Contractor Quality Control list of Outstanding Deficiencies attached at the end of this Specification Section.

h. Weather conditions encountered; and any delays encountered.

i. Both conforming and deficient features: The original and one copy of these records in report form shall be furnished to the FR daily by 12 noon of the day after the date covered by the CQC Report. All reports shall be legible, literate and complete.

j. **CQC** Reports need not be submitted for each day on which no work is performed. As a minimum, one report shall be prepared and submitted for every seven days of no work and/or on the last day of a no work period. All calendar days shall be accounted for throughout the life of the Contract. The first report following day(s) of no work shall be for that day only.

k. **CQC** Reports are to be signed and dated by the Contractor's QC representative.

l. The report from the CQC representative shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel. A blank form for a CQC **R**eport for incorporation and utilization in the CQC Plan is attached at the end of this Specifications Section.

L. Notification of Noncompliance Identified by the Authority

1. The FR will notify the Contractor of any detected noncompliance identified by any Agent of the Authority with the foregoing requirements. The Contractor shall immediately take corrective action after receipt of such notice. Such notice, when delivered to Contractor or Contractor's representative at the site of the work, shall be deemed sufficient for the purpose of notification. The Contractor shall include notification of the Deficiencies on the CQC Report for that day and enter the deficiencies on the blank Contractor Quality Control List of Outstanding Deficiencies (sample attached at the end of this Specification Section) for tracking until corrected.

2. If Contractor fails or refuses to comply promptly, the Authority's Project Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim by Contractor for extension of time or for excess costs or damages.

M. Payment

Separate payments will not be made for providing and maintaining an effective Contractor Quality Control program as required above, and all costs associated therewith shall be included in the bid.

NOTE: Forms titled "Contractor Quality Control Report" and "Contractor Quality Control List of Outstanding Deficiencies" are included on the next two (2) pages.

END OF SECTION

* * *

CONTRACTOR QUALITY CONTROL (CQC) REPORT

School: _____ Report No. _____

Borough: _____ Reporting Period: _____

Project Title: _____ Weather: _____

Contractor: _____ CQC Representative: _____

Contract No.: _____ Superintendent: _____

Contractor's Telephone # _____

1. CONTRACTOR QUALITY CONTROL INSPECTIONS PERFORMED:
Identify Preparatory "P", Initial "I" and Follow-up "F" inspections.

_____
_____
_____
_____
_____
_____

2. CHECKLIST FOR CONTRACTOR QUALITY CONTROL ACTIONS:

A. ❑ Preparatory Inspection. (See attached minutes of meeting).
B. ❑ Testing performed. (See attached test results or CQC test reports).
C. ❑ Outstanding deficiencies/corrective action (See attached outstanding deficiencies list).
D. ❑ Special instructions given or received and actions taken.
E. ❑ Delivery of equipment and materials to be installed.
F. ❑ Submittal Actions.
G. ❑ Permit Actions.
H. ❑ Job Safety.
I. ❑ Other; identify. (Do not repeat items on Contractor's Daily Report).

Address checked items below or on attachments: _____
_____
_____
_____
_____
_____
_____

3. CONTRACTOR'S VERIFICATION STATEMENT:

The above report and attachments are complete and all supplies, materials, equipment and workmanship incorporated into the work are in full compliance with the contract requirements except where noted.

Date: _____ Signature: _____
Contractor's Q.C. Representative

CONTRACTOR QUALITY CONTROL LIST OF OUTSTANDING DEFICIENCIES

School: _____ **CQC Report No.:** _____
Borough: _____ **Date:** _____
Project Title: _____ **Contract No.:** _____
Contractor: _____

No.	Spec. Ref. or Dwg. No.	Description of Deficiency	Location in Building	Date Found	Date to be Corrected	Date Corrected	Upon Correction Initials CQC Rep.	Remarks

SECTION S01500
TEMPORARY FACILITIES AND CONTROLS

1.01 REQUIREMENTS

A. The Contractor shall Provide the temporary facilities and controls as hereinafter specified and as required by law.

1.02 SECURITY

A. Security Guard Services

1. All security guards and security guard firms must comply with the Security Guard Act, Article 7-A, of the General Business Law.

   a. All security guard firms must be licensed with the Department of State. Prior to placement of any security guards at the Site, the Contractor shall provide the Authority with a copy of the security guard firm's license.

   b. All security guards must be registered as required by the Security Guard Act. Security guards shall carry their registration cards whenever they are on the Site. Additionally, a copy of the registration card for each security guard assigned to the site must be submitted to the Authority prior to beginning the assignment.

   c. Without limiting the Authority's other rights and remedies, the Authority shall not pay for the services of any security guard unless the Authority has been furnished with a copy of the firm's license and the security guard's registration card as provided above.

2. The Contractor shall provide security guards in accordance with the Phasing Exhibit.

B. Employee Identification

1. The Contractor shall provide photo-identification badges for all of the Contractor's employees and, in addition, require that all Subcontractors provide photo-identification badges for their employees. Badges are to be worn on outer clothing and be conspicuously displayed at all times while

present on the premises of the Authority or the Department of Education.

a. The badge is to include the Contractor's name, the employee's name, an employee identification number, date of birth, height and weight, and a photograph of the employee. The identification number shall correspond to the employee's social security number.

b. The Contractor shall maintain an internal record of each such employee identification number and the social security number to which it corresponds. The social security number shall not be displayed on the badge.

2. The Contractor is hereby notified that any employee of the Authority, the Department of Education, **or** any law enforcement agency shall have the right to inspect identification badges. If the Contractor's employee refuses to display or produce a badge for examination, the Authority shall be notified and the Contractor may be directed to remove the employee from the premises.

C. No visitors shall be permitted on the Site without prior approval by the Authority.

1.03 Not used.

1.04 Not used.

1.05 TEMPORARY LIGHTING, POWER AND ELECTRIC SERVICE

A. General

1. The Contractor shall provide, maintain, and pay for all temporary lighting and power required, including exterior lighting and security lighting, in connection with the Contractor's operations from the commencement of the Work until the completion of the project or for such other time as directed by the Authority. When the use of such temporary lighting and power is no longer required, all temporary wiring and equipment shall be completely removed by the Contractor.

2. The temporary power amperage shall be sufficient to power all operations and to test (and operate if necessary for construction purposes) the permanent

equipment (such as roof top units, elevators, etc.) in phases without the need for permanent service to be installed, and at a minimum shall be 1000 Amp service. Service shall be through the utility company or if the utility company cannot provide the full amount of required power, the remainder shall be through diesel or gasoline driven generators. The minimum required through the utilities shall be sufficient to test the permanent equipment (such as roof top units, elevators, etc.) in phases.

a. At a minimum, the Contractor shall provide generators until such time that the utility company can provide temporary power, if it can. Such generators shall be filed with the regulatory authorities and shall comply with code.

1) The minimum size of generator shall be equal in size to the load required. The generator is to supply the necessary electric power for all temporary lighting, security lighting, equipment such as pipe threading machines, heating burner equipment, etc.

2) The generator shall be in operation as required to maintain the work.

3) Provide noise abatement devices around such generator that noise limits as mandated by the DEP are not exceeded in the surrounding community.

3. An independent temporary lighting and power service with separate meter connection shall be provided by the Contractor for the Authority's Field Office. The wiring and connections shall be installed immediately on arrival at the site of the Field Office. The separate metering requirement will be waived if main temporary service is available when the Authority Field Office arrives.

4. The Contractor shall make the necessary application to the utility company and pay for all charges, costs and expenses incidental to the installation and maintenance of temporary lighting and power as required in connection with the Contractor's

operations, and the Contractor shall pay for all power used.

5. Where temporary lighting and power is approved to be taken from the main electrical power of an existing building, the cost of the current or power so used will be borne by the Department of Education.

6. The required temporary lighting must be maintained for twenty-four (24) hours a day and seven (7) days a week at all stair levels and in all corridors below ground; in all other spaces temporary lighting is to be maintained only during working hours.

7. All temporary wiring and equipment shall be in conformity with the New York City Electrical Code. Three-phase temporary power circuits shall be installed as required to operate construction equipment of the various trades and to install and test equipment and operate as required for construction purposes such as pumps, mechanical equipment and elevators.

B. Minimum Illumination

1. The minimum illumination permitted at any time, anywhere within and outside of the Building, shall not be less than the requirements of the Labor Law Dept. of Labor, State of N.Y. or OSHA or any other agency having jurisdiction, but in no case less than 20 FC average and no less than 2 FC at any point.

2. The minimum lighting requirement anywhere about the site shall be 2 FC average and 0.5 FC minimum at any point.

3. If the Authority's Representative decides that the temporary illumination within the building, or on adjacent site is unsatisfactory, the Contractor shall:

   a. Provide additional lighting units in designated areas.

   b. Increase the number of lighting units in simultaneous operation.

C. Temporary on Site Exterior Security Lighting System

1. Provide a temporary on-site exterior security lighting system for prevention of vandalism and thefts during the course of construction.

2. The security lighting system must be completely installed and operating at the earliest possible date as directed by the Authority.

3. A plan detailing the layout of all trailers and the site lighting shall be provided along with the Temporary Lighting Submittal.

4. Minimum lighting shall be 2 FC average and 0.5 FC minimum at any point.

1.06 TEMPORARY WATER

A. Furnish and pay for water used for temporary service as described herein. Make all arrangements for such water with the agency having jurisdiction and provide special metering and piping if required.

B. Provide and maintain a temporary water system of size and capacity as required to supply the needs of all contractors for the Work.

C. Provide no less than two 3/4" hose bibs conveniently located.

D. Provide and pay for all connections and permits.

E. Provide such temporary water system so that service shall be available at the commencement of the Work. The permanent water risers and lines may be used for temporary water supply. The permanent services shall be turned over to the Authority in perfect condition. Any repairs required due to temporary use shall be made at the sole expense of the Contractor.

F. Provide a line of adequate size to the temporary toilet facilities if such facilities require water.

G. Protect temporary and permanent lines against any damage.

H. Prevent water damage to the Work.

I. Remove all temporary lines when directed by the Authority's Representative when such lines are no longer required.

1.07 TEMPORARY TOILET FACILITIES

A. The Contractor shall provide and maintain toilet accommodations for all persons employed or engaged in the Work; such facilities shall meet any and all requirements of law, rule or regulation. The Contractor shall remove such facilities at the completion of the Work or at such earlier time as the Authority's Representative may direct.

B. Provide one chemical toilet unit adjacent to the security guard's station.

C. If, upon the approval and direction of the Authority's Representative, a toilet room in a school building is used as a temporary toilet facility, such temporary toilet facility shall be maintained in a sanitary condition by the Contractor. In all permanent toilet rooms, all plumbing fixtures and room finish shall, upon completion of the Work, be free from any damage, defacement or other defects. The cost of any necessary repair or replacement shall be borne by the Contractor.

D. Sanitary Facilities

Sanitary facilities shall be provided during construction, remodeling, or demolition activities in accordance with the 2008 New York City Plumbing Code.

1.08 TEMPORARY FIRE PROTECTION SYSTEMS DURING CONSTRUCTION

A. Temporary Standpipe Systems

During construction, alteration or demolition operations, provide temporary standpipe system during construction complying with the following per paragraph BC 3303.8 and any amendments thereafter but prior to the issuance of a permit. Obtain permits as required by Local Law 60/2009 when cutting and patching an existing system:

1. When work reaches a height greater than 75 feet in a building for which a permanent standpipe is being provided, a temporary standpipe **system** meeting the requirements of Section BC 905 shall be kept in readiness at all times for use by fire fighting personnel. The system shall be a dry system when

freezing conditions may be encountered. As per Local Law 64/2009, provide an air pressurized alarm system. Pressure shall be maintained at all times. The Contractor shall engage a licensed design professional to design such temporary standpipe system and file the design and obtain the permit from applicable agencies. The Contractor may utilize the permanent fire protection system in the design of the temporary system and is responsible to provide all testing as needed upon the alterations. Provide testing of the system once the 75 foot building height is required as per Local Law 63/2009. Remove all temporary portions connected to the permanent system at the completion of the project when the permanent system is ready and tested for approval. Repair all finishes.

2. Existing standpipe systems in structures undergoing demolition shall be maintained as dry standpipes. At the commencement of demolition, the standpipe risers shall be capped above the outlet on the floor immediately below the floor being demolished so as to maintain the standpipe system on all lower floors for Fire Department use. Standpipe hose, nozzles and spanners are not required to be maintained and may be removed at any time. Siamese hose connections shall be kept free from obstruction and shall be marked by a metal sign reading, "Standpipe Siamese Connection" and by a red light at night.

3. The standpipe system may be used for water supply necessary to demolition operations. In freezing weather, such standpipe system shall be completely drained after use to prevent freezing. Existing standpipe Systems shall not be utilized to convey compressed air unless the standpipe consists of two or more risers. In such case and upon fire department approval, one of the risers may be used to convey compressed air to any floor or portion of the premises.

B. Sprinkler Systems

During construction, alteration or demolition operations when existing sprinklers have Siamese hose connections, sprinkler systems shall comply with the following per paragraph BC 3306.9.6:

1. Sprinkler systems shall be maintained as a non-automatic sprinkler system. When demolition starts, the sprinkler risers shall be capped immediately below the floor being demolished so as to maintain the sprinkler system on all lower floors for Fire Department use. Siamese hose connections shall be kept free from obstruction and shall be marked by a metal sign reading "Sprinkler Siamese Connection" and by a red light at night.

1.09 HOISTS, HOISTWAYS, AND ELEVATORS

A. The Contractor shall provide, operate, and maintain the required hoists and lifting equipment for the performance of the Work of this Project in accordance with the provisions herein.

B. General Requirements

1. Comply with the manufacturer's specifications and limitations applicable to the operations of all hoists and elevators. Where manufacturer's specifications are not available, the limitations assigned to the equipment shall be based on the determinations of a professional engineer competent in the field.

2. Rated load capacities, recommended operating speeds, and the special hazard wiring or instructions shall be posted on cars and platforms.

3. Location - No hoists shall be constructed at such locations that will interfere with or affect the work of other contractors, or the functioning of school activities; they shall be located a sufficient distance from the exterior walls, and be so protected as to prevent damage, staining or marring of any permanent work.

C. Material Hoists

1. Operating rules shall be established and posted at the operator's station of the hoist. Such rules shall include signal system and allowable line speed for various loads. Rules and notices shall be posted on the car frame or crosshead in a conspicuous location, including the Statement "No Riders Allowed." No person shall be allowed to ride on material hoists except for the purposes of maintenance and inspection.

2. All entrances of the hoistways shall be protected by substantial gates or bars which shall guard the full width of the landing entrance.

3. Protection of Interior Hoists - All interior hoistways shall be enclosed on each floor and shall be adequately protected with substantial guards. In no event shall the protection be less than that required by law.

4. All material hoist towers shall be designed by a licensed professional engineer and shall conform to the requirements of ANSI A10.5-1989, Safety Requirements for material hoists.

1.10 TEMPORARY ENCLOSURES

The Contractor shall:

A. Provide and maintain temporary weather-resistant enclosures for all openings in exterior walls and roof that are not enclosed.

B. After building is enclosed, maintain proper temperatures required by the Contract.

1.11 TEMPORARY FENCE ENCLOSURES

A. The Contractor shall provide and maintain temporary fence enclosures required by the Contract.

B. Provide a construction fence as required, with construction in accordance with the NYC Building Code. Paint fence one coat of paint in color selected by the Authority.

C. A safety zone approved by the DOB shall be provided around the demolition area as shown on the site safety plan. Fences shall be erected to prevent persons other than workers from entering. They shall be at least 8 feet high, solid, with clear ¼" thick polycarbonate plastic panels at viewing openings.

D. Develop, and submit to the Authority for approval, a detailed fence plan, indicating bracing, gates and other pertinent information.

1.12 TEMPORARY ROADWAYS

The Contractor shall:

A. Provide all temporary roadways required by the Contract. Where such roadways are not designated in the Contract, the location of such roadways shall be approved by the Authority.

B. Maintain all temporary roadways used for the Work, including but not limited to the removal of snow.

C. Allow all persons engaged in Work free access to and use of all such roadways.

1.13 Not used.

1.14 STAGING AREAS

A. The Authority may, at its discretion, designate temporary staging areas for the Contractor for such purposes as storage of materials, erecting a field office. The staging areas shall be located as determined by the PM in consultation with the custodian and the principal. Provide fencing and secure in-swinging gates to fully enclose the areas and prevent unauthorized entry. Fences and gates shall be at least 8 feet high unless directed otherwise by the Authority. Submit drawings of the staging areas to the Authority for prior approval, indicating locations of all facilities and details of fences and gates. Maintain the areas and facilities in safe, clean, and orderly condition.

B. When directed by the Authority, remove temporary staging area facilities, repair all damage, and finish the area as directed.

1.15 WATER CONTROL

A. The Contractor shall provide, maintain and operate pumps required to keep the Work free of water at all times.

B. The Contractor shall:

1. Provide, maintain and operate pumps as required to keep all exterior work free of water at all times. The Contractor shall comply with all NYSDEC, NYCDEP and DOB requirements for water management and disposal. When required the contractor shall pay for all fees and file all required applications in order to facilitate such operations.

2. Dispose of all water with due care and shall not infringe on the rights of others on the Site, of adjacent property owners and of the public. All cost in connection with the removal of such water shall be paid by the Contractor.

C. Drainage

1. No condition shall be created as a result of construction or demolition operations that will interfere with natural surface drainage.

2. Water courses, drainage ditches, etc., shall not be obstructed by refuse, waste building materials, earth, stones, tree stumps, branches, or other debris that may interfere with surface drainage or cause the impoundment of surface waters.

3. All excavations shall be drained and the drainage maintained as long as the excavation continues or remains. Where necessary, pumping shall be used, provided proper permits are obtained from the New York City Department of Environmental Protection.

1.16 POLLUTION CONTROL

The Contractor shall:

A. Comply with all laws, rules and regulations governing pollution control, including but not limited to those of the Department of Environmental Conservation of the State of New York.

B. Take all necessary precautions including, but not limited to digging and maintaining settling basins and dams; diverting streams, and taking all other actions that may be necessary to prevent silt, and waste of any kind from being deposited, silting and reduction of quality of streams below the construction area and downstream properties as a result of the Work.

C. Refrain from the disposal of volatile fluid wastes into storm or sanitary sewer systems, approved sewage disposal systems or any waterway.

D. Refrain from burning trash or waste materials.

1.17 TEMPORARY FIELD OFFICES

A. Contractor's Field Office

1. The Contractor shall provide for its use all temporary office facilities necessary for the performance and management of the construction. Such facilities must be in place and in operation within thirty (30) days of the start date indicated on the NTP. No space within the existing building will be provided to the Contractor for such temporary offices unless otherwise indicated.

2. The Contractor must obtain written approval from the Authority for any temporary facility located on the site. The Contractor shall relocate such temporary office facility to other locations, approved by the Authority, as necessary to facilitate the expeditious completion of the Work at no additional cost to the Authority.

3. Temporary toilet and sink shall be connected to an approved sewage disposal system.

4. The Contractor shall provide and maintain for its use to interface with the Authority's Project Management system (on Primavera® Expedition/Oracle Contract Manager) at least one computer with a minimum of an Intel Pentium Core 2 processor and 2GB RAM. The computer's OS shall be Windows® XP Professional or Windows 7 Professional, with Internet Explorer 7.0 or later version. The Contractor shall maintain internet connectivity with a commercial Internet Service Provider (ISP) for its use throughout the duration of the Work for connection to the Authority's computer network.

5. Utilization of Authority's Project Management system and Related Requirements

   a. The Contractor shall provide and maintain all computer related equipment and services to allow uninterrupted data transfer between the Contractor and the Authority's Project Management system, accessible via the NYCSCA Citrix Internet web portal located at https://extranet.nycsca.org The Contractor is not required to obtain its own Project Management Software to interface with the Authority's software but its computer system must support https, the ability to load a browser based plug-in from Citrix for connectivity.

b. To facilitate communication with the Authority and its representatives, as well as to log-in various construction related documents, the Authority will provide access to various folders and modules within the Authority's Project Management system. The Contractor shall utilize the Authority's Project Management system to communicate with the Authority and its representatives and to log all construction related documents. This is a mandatory requirement and no other computer software shall be utilized, and no data transfer from other computer programs into the Authority's Project Management system shall be permitted.

c. If the Contractor is not adequately familiar with Expedition or has never used it, the Authority will provide, on a limited basis, rudimentary Expedition training for the Contractor's designated personnel possessing computer literacy in Windows® and basic typing skills.

6. At the completion of the Project, the Contractor shall remove the temporary office facilities from the Site, discontinue temporary services, and repair the Site and finish the area as directed by the Authority. The refurbishing of the site also applies to temporary facility relocation.

B. Authority's Field Office

1. Within thirty (30) days of the start date indicated by the NTP, the Contractor shall provide and have operational temporary office facilities for the Authority's use during the course of the Work. The Contractor shall maintain such facilities until the Authority concurs Final Completion has been achieved or as directed by the Authority.

2. The location and type of facility must be approved by the Authority.

3. Provide all required utilities, services, and connections for the Authority's Field Office, including water, sewer, and electric service. All sanitary waste from the Field Office shall be connected to an approved sewage disposal system.

The Contractor shall relocate such temporary office facility to other locations, approved by the Authority, as necessary to facilitate the expeditious completion of the Work at no additional cost to the Authority. This shall include reestablishing all necessary computer, internet access and telephone connections.

4. The Contractor shall include one relocation of all furnishing and equipment contained in the Authority's temporary office to a designated room within the school building at no additional cost to the Authority. This shall include reestablishing all necessary computer, internet access and telephone connections.

5. The Authority's office facilities shall be provided by the Contractor as follows:

   a. The facility shall not be less that 700 SF with four (4) offices, toilet room (complete with exhaust fan, flush toilet, washbasin, paper holder, and medicine cabinet with mirror), enclosed 6-gallon electric hot water heater, a conference area with plan table, and central Heating, Ventilating and Air Conditioning. If a trailer is utilized, provide a skirt around the trailer's perimeter. Provide and maintain heat tracings on all plumbing lines. Each window is to have a full size insect screen and guards as well as sunshades. Each entrance is to have two doors, one with a screen, the other solid with crossbars with padlocks also keyed alike. Provide the Authority's representative with four (4) keys to entry doors and padlocks. Interior doors are to have separate locksets.

   b. Provide the field office facility with a motion detection system with local and remote alert capabilities.

   c. The Contractor shall purchase one new multifunctional copier for the Authority's field office through the Authority's contract with its equipment vendor. The cost of such a purchase, including all installation, services, and extended warranties, shall be included in the bid price.

1) The Contractor shall contact the Authority's Administrative Services Department (718-472-8828), who will assist the Contractor in purchasing the multifunctional copier and provide the appropriate omnibus Contract number. The Contractor may call the Administrative Services Department during the bidding process to obtain the anticipated cost of the equipment for use in the bid.

2) The multifunctional copier shall be shipped from the vendor to the designated location in accordance with the written instructions of the Authority's Administrative Services Department.

3) The multifunctional copier shall be as follows:

One multifunctional copier: Ricoh Aficio 3351SPF scan/print/fax. 3-Year Next Business Day Parts and Labor Service Contract. The multifunctional copier shall be purchased with a 3-year Next Business Day Parts and Labor On-Site Response Warranty. As part of the copier contract provide toner ink refill cartridges as needed.

4) At the completion of the Project, or when directed by the Authority, the Contractor shall coordinate with the Authority's Administrative Services Department for the removal of the multifunctional copier. Deliver the copier to a location to be determined by the Administrative Services Dept.

d. The Contractor shall also equip the field office with the following:

- One(1) plan table, 36" x 72" and one (1) plan rack.

- One(1) 72" high mahogany laminated bookcase.

- Two (two) conference tables 48" x 72" with 12 folding chairs with upholstered seat.

- Two (2) precision drafting swivel stool for plan tables

- One(1) legal sized filing cabinet with 4 drawers, suspension type provided with follower and rod.

- Two (2) printer stands with adjustable shelves and door cabinet.

- One (1) dry marker board (3'x 5') with erasable markers.

- One (1) cork board (3' x 4')

- One (1) office desk (60" x 30")

- One (1) high back swivel chairs (HOH 2000 Series or approved equal)

- One (1) water cooler with hot and cold-water outlets, manufactured by Hawes Drinking Faucet Co. Provide fresh bottled spring water as needed.

- One (1) refrigerator

- One (1) electric fan, 16" oscillating, 3 speed, floor mounted

- One (1) microwave oven

- One (1) approved dry chemical fire extinguisher, equal to twenty (20) pound CO_2 rating

- Eight (8) safety hard hats

- Two (2) new first aid kits complying with OSHA requirements. Restock as required

- One (1) Stanley mason's level, 48" long, walnut and redwood stock $2^{1}/_{4}$" x 11/16 with aluminum tips

- One (1) answering machine with unlimited message length capability, manufacturer and model to be approved by the Authority.

- Electrical system complete with plug-in connector and three circuits protected by circuit breakers, ten electrical outlets and five pre-planned telephone outlets.

- Two (2) cordless telephones

All of the above equipment shall be new. The Contractor shall be responsible for all installation, service and tool charges incurred as a result of the use and the maintenance of such office equipment telephone services. Any repairs must be accomplished within 24 hours. The Authority will replace, at the Contractor's expense, any equipment not so repaired.

e. The Contractor shall include in the bid an Allowance for the purchase of Office Stock in the amount of $3000. The Allowance shall be used to purchase the Office Supply Stock described in APPENDIX A at the end of this section; Column A - initial stock, and Column B - restocking - every two months thereafter, throughout the duration of the Contract. The Contractor shall invoice monthly against the allowance, providing receipts for all materials. Prior to each bi-monthly order, the Contractor shall verify the quantity of each item required with the Authority's Representative. In addition to the supplies listed in the appendices, provide refill cartridges for desktop printers on an as needed basis. The refill cartridges for desktop printers shall be paid for from the Allowance. Any Allowance amount not expended for replacement supplies shall be credited back to the Authority. The Contractor is to deliver all material to the Authority's office.

f. The Contractor shall provide and supervise a professional cleaning service to clean daily and maintain the Authority's field office and wash once very week. The Contractor shall

replace burned out fluorescent tubes as needed.

6. The Contractor shall provide and maintain phones and phones lines for the Authority's office as follows:

   a. A total of two (2) phone lines with an equal number of phones for voice communication.

   b. One (1) phone line for fax.

7. Internet Connection: The Contractor shall provide and maintain internet service with a commercial Internet Service Provider (ISP) to the Authority's field office. The internet service shall be the fastest and most reliable type connection available at the site. The Contractor is required to procure the first available option as listed below. If ISP access is available by cable modem service, this option must be chosen. If cable modem service is not available, DSL or Verizon FIOS shall be provided.

   a. Broadband business class connection with static IP address using Cable Modem Ethernet Router.

   b. High speed business class DSL with static IP address using DSL Modem Ethernet Router.

   c. High speed business class Verizon FIOS with static IP address using Ethernet Router.

8. The Contractor shall purchase all new computer equipment for the Authority's field office through the Authority's contract with its equipment vendor. The cost of such purchases, including all services and extended warranties, shall be included in the bid price.

   a. The Contractor shall contact the Authority's I.T. Department (718-472-8885), which will assist the Contractor in purchasing the computer equipment and provide the appropriate omnibus Contract number. The Contractor may call the office during the bidding process to obtain the anticipated cost of the equipment for use in the bid.

b. All computer related equipment shall be shipped directly from the vendor to the Authority's IT Department, located at 30-30 Thomson Ave, Long Island City, NY 11101, to the attention of Anneli Borbeck /Zita DeVivo. The equipment is to be delivered in unopened, original OEM boxes. Boxes showing signs of tampering will be rejected. All computer equipment purchased for the Authority's field office shall become the property of the Authority.

c. Computer related equipment shall be as listed below. All equipment is to be purchased with 3-year Next Business Day Parts and Labor On-Site Response Warranty.

1) Personal Computer (PC): Dell OptiPlex 760, Core 2 Duo, E8400/3.0GHz, 6M, 1333 FSB, USB 2-button Optical mouse w/ scroll/Black, Dell USB Quiet Keyboard no hot keys/English/Black, 4.0GB Non-ECC, 800MHz DDR2, 4X1GB memory, 16X DVD-ROM+/-RW Drive (SATA), 3.5" 1.44 MB Floppy Drive, 80 GB SATA Hard Drive, 3.0 Gb/s and 8MB Data Burst Cache, CFI, B3RB, Display, Flat Panel, 19-in VIS, 1909WB, Windows XP PRO SP3 with Windows Vista Business License, Basic Support - Next Business Day Parts & Labor on-Site service - 3 years.

2) Cisco 1811 Integrated service router:

a) CISCO1811W-AG-A/K9 Cisco 1811W Security Router with 802.11a+g FCC Compliant and Analog B/U.
b) S181AISK9-12404T Cisco 181x Series IOS ADV. IP SERVICES.
c) ROUTER-SDM-NOCF SDM software on flash and w/o startup-config.
d) CAB-AC Power Cord,110V.
e) MEM1800-32CF 32MB Cisco 1800 Compact Flash.
f) CON-SNT-PKG1 Cisco 1811W SMARTnet 8x5xNBD Maintenance.

d. The quantity of required computer related equipment to be purchased is as follows:

PC - 0
Integrated Services Router- 0

9. When directed by the Authority, the Contractor shall discontinue all internet and telephone services, disconnect all computer related equipment, and deliver same to the Authority's IT department.

10. Should trailer or office relocation be required when the project is still active, the Contractor shall discontinue all internet and telephone services, disconnect all computer related equipment, relocate them to the new designated location and inform the Authority's IT department for reconnection. One such relocation shall be included in the Contract.

11. At the completion of the Project, when directed by the Authority, the Contractor shall remove the temporary office facilities from the Site, discontinue the temporary services, and repair the Site and finish the area as directed by the Authority. The refurbishing of the site also applies to temporary facility relocation.

1.18 PROJECT IDENTIFICATION

A. A Project Identification sign constructed of 5/8" thick MDO plywood will be furnished by the Authority. The sign will be delivered to the site by the vendor.

1. The Contractor shall provide a suitable frame for the sign and shall erect sign, providing required supports, bracing, and painting of frames, supports and bracing, all at the expense of the Contractor.

2. Erect the sign in a location as directed by the Authority.

Vertical supports: All heart Redwood posts of sizes, heights, and quantities as required to resist both vertical and lateral forces anticipated.

3. Provide necessary bracing.

4. If sign is constructed using two pieces of plywood, Contractor shall provide a suitable backer board at sign splice, to hold two pieces in alignment.

5. Countersink all nails and screw heads after erection; fill holes and touch-up paint.

B. Maintain the sign for the duration of the Work of the Project to provide the following:

1. Good appearance.

2. Good structural condition (level, plumb).

If deemed necessary, in the opinion of the Authority, repaint all or portions of the sign (except for lettering and artwork), supports and appurtenances, at the Contractor's expense.

C. Size of Sign: 8'-0" x 8'-0".

D. Paint

Wood: 1st Coat - Alkyd exterior wood primer.
Two Coats - Semi-Gloss exterior alkyd paint.

E. Yard-Mounted Sign

1. Erect sign plumb and true; set vertical supports firmly in the ground, of sufficient depth to resist both vertical and lateral forces anticipated. Brace as required for conditions. Bottom of sign 6'-0" above ground, unless directed otherwise by the Authority's Representative.

2. Upon completion of the Project, remove the sign, supports and bracing from the premises at the direction of the Authority's Representative; fill holes in the earth (and/or paving) and restore area to good condition.

F. Building Wall-Mounted Sign

1. Mount sign on existing building wall, in location as directed. Attach to wall with suitable anchors which will sustain all forces on the sign, yet will cause minimum damage to the wall. Erect plumb and true.

2. Upon completion of the Project, remove the sign, anchors, and other accessory items from the premises at the direction of the Authority's Representative; patch holes in the building wall and restore surface to good condition.

G. No other signs or advertisements shall be displayed on the Site, except as required by the Contract.

1.19 RODENT AND PEST CONTROL

A. During the Work, Contractor shall provide rodent and pest control. A licensed exterminating company, with minimum of 10 years of successful experience, shall keep the premises free of rodents, pests, insects, and vermin.

B. For existing occupied school building site, the use of chemical insecticides and rodenticides is prohibited. Provide lockable tamperproof traps within the fenced-in area of the construction site to keep the site free of rodents and other vermin. Any rodent or pest control within the existing building will be provided by Others under contract with the Department of Education.

C. Before final acceptance of the building, furnish to the Authority a statement in affidavit form, signed by an exterminator licensed by the New York City Health Department, in form satisfactory to the Authority, to the effect that the building premises are entirely free from rodents, roaches, water bugs, fleas, lice and vermin of every kind.

1.20 TREE PROTECTION

A. Provide adequate protection for the duration of the Project Work for existing trees which are to remain at the Site. Contractor shall bear the expense of replacing trees that are damaged.

B. No trees outside the property line within the public right of way shall be disturbed or removed without the permission of the Commissioner of the Department of Parks and Recreation. Protection shall be provided around the trunks of all trees with written notification at least 48 hours prior to commencement of such work. Such trees shall be protected pursuant to the requirements of the Department of Parks.

C. Provide photos of trees prior to beginning construction operations, including installation of bridging and sheds.

Engage an ISA Certified Arborist to develop plans and supervise the protection of the trees.

1.21 SCAFFOLDING

A. General:

1. The Contractor shall furnish and securely set scaffolds required for the Work.

2. All scaffolds shall be of good, sound materials, of adequate dimensions for its intended use and substantially braced and tied to ensure absolute safety for its users, school personnel, and the public.

3. Scaffolds shall be in conformance with the requirements of the New York City Building Code and all laws and regulations having jurisdiction.

B. Exterior Scaffolding

1. Suspension Scaffolds:

Suspension scaffolds are not permitted. Scaffold platforms suspended by ropes or other non-rigid means from overhead are prohibited.

2. All Other Types of Scaffolds (Supported Scaffolds):

a. Supported scaffolds shall have a completely rigid supporting system, transferring all vertical loads to the ground, sidewalk shed, or building structure below.

b. Scaffolds shall be filed by the Contractor with the Authority's Facilities Inspection Division. All applications shall be submitted by a licensed professional Engineer or Architect.

c. Scaffolds shall be checked by a licensed Professional Engineer hired by the Contractor, who shall inspect and certify that scaffolds installed comply with the manufacturer's specifications and the New York City Building Code and all laws and regulations having jurisdiction and are safe to perform the Work of the Contract. The Contractor shall submit such certification to the Authority and

display a copy at the job site for verification.

d. Scaffolds shall not be anchored to the outer wythe of masonry walls for lateral bracing.

e. Lateral bracing shall be anchored by one or more of the methods described in subparagraphs 1), 2), or 3), below. Prior to erection of the scaffolds, the Contractor shall submit the method(s) to the Authority for review and approval. The submittal shall be prepared, signed and sealed by a Registered Architect or licensed Professional Engineer, and this Architect or Engineer shall certify the structural adequacy of all anchorage methods to be utilized for the Project.

1) Provide anchorage through the outer wythe of masonry into the second wythe of masonry. The existing wall must be of solid masonry construction.

2) Secure scaffolds to the building structural steel or reinforced concrete member.

3) If the Contractor finds an alternate method of bracing preferable, the Contractor shall submit the proposed alternative method, certified by the Contractor's Architect or Engineer, to the Authority for review and approval.

f. The Contractor shall be responsible for the stability and safety of the scaffolds and anchorage until their removal, and for restoration of the entire wall where damaged or disturbed by bracing.

1.22 SIDEWALK SHEDS, PROTECTIVE SHEDS, FENCES, CHUTES, ETC.

A. Provide and maintain sidewalk sheds and on-site protective sheds as specified in Section S01535 - Safety Program.

B. Sidewalk sheds, on-site protective sheds, fences, railings, over-the-sidewalk chutes, and other such temporary facilities shall be filed by the Contractor with the Authority's Facilities Inspection Division. All

applications shall be submitted by a licensed professional Engineer or Architect.

C. Sidewalk sheds and on-site protective sheds shall be constructed to provide complete, continuous protection as required by applicable regulations and the Contract Documents, without gaps or openings between protective elements, or between the shed and the face of building where the shed abuts the building.

D. Provide vandal resistant light fixtures with wire guard, and with incandescent or self-ballasted compact fluorescent lamps. Provide and maintain temporary lighting at all times, including making repairs due to vandalism. Temporary lighting wiring shall be run in rigid galvanized conduit (RGC). The conduit shall be run exposed and secured, in an approved manner, below the shed. The Contractor shall provide branch circuit wiring from a panel in the building and run three THW conductors (Black-White-Green) per circuit. Core drill (2") the conduit entrance into the building and insert a 1½" threaded sleeve. The Contractor shall remove the conduit and wires and place a threaded cap on the sleeve thru the building after temporary lighting is removed. The Contractor shall provide a schematic layout of sidewalk shed lighting. All temporary wiring shall be installed in accordance with the requirements of the Bureau of Electrical Control as per NYCDOB Policy Notice 99-9. A temporary certificate of inspection issued by that Bureau shall be obtained by the Contractor and delivered to the Authority's Representative.

E. Tamper-Resistant Fasteners: All fasteners and connections used in the construction of sheds shall be tamper-resistant type. Tamper-resistant fasteners shall be used in such manner as to prevent unauthorized removal or loosening of any part of the shed. Specialized tools shall be required for removal.

1. Provide tamper-resistant fasteners for connection of all components and materials of the shed, including but not limited to pipe bracing, pipe railings, beam clamps, couplings, outriggers, extensions, protective guards, and enclosure walls built around the perimeter of the shed deck. Non-tamper resistant nuts, bolts, screws, nails, and pins are prohibited unless used in conjunction with a device which makes the entire connection assembly tamper-resistant.

2. Bolts shall have tamper-resistant heads or shall be welded to prevent removal. Screws shall have tamper-resistant heads such as Torx or socket security hex head with center pin.

3. Tamper-resistant nuts

   a. Nuts shall be conical shape with multiple slots, requiring specialized socket tool for installation and removal. Corrosion resistant zinc alloy (Zamac 5 - AC41A). Compressive strength, 87,000 psi. Shear strength, 38,000 psi. Impact strength (CHARPY), 48 ft.lbs. Hardness BHN, 91. Size and threads as required to suit studs and bolts. Remove all sharp edges. Manufacturers:

      1) Trident Tamper-Resistant Nuts; Tanner Bolt & Nut Corp., 4302 Glenwood Road, Brooklyn, NY 11210. Telephone 718 434-4500.

      2) Trigroove Tamper-Resistant Nuts; Fastenal Company, Farmingdale, NY. Telephone 516 391-0980.

   b. Provide zinc plated hex nuts, cylindrical spacers, and/or washers beneath tamper-resistant nuts where required for a proper connection. Fully tighten the entire assembly for tamper resistance. The diameter of the tamper-resistant nut shall not exceed the outside dimension of a hex nut or spacer beneath it, in order to prevent unauthorized removal.

   c. Fully tighten all fasteners. Wherever a standard nut is used it shall be fully tightened and a tamper-resistant nut shall be installed over it to prevent unauthorized removal. Where through bolts or rods are used, provide tamper resistant devices at both ends, or weld one end to prevent turning.

1.23 TEMPORARY STAIRWAY

A. The Contractor shall provide and maintain at least one temporary lighted stairway when construction or demolition to a structure is greater than 50 feet or four stories, unless one or more of the permanent stairways

are erected or maintained as the construction or demolition progresses, in accordance with Section BC 3303.11.1 of the 2008 NYC Building Code.

END OF SECTION

MF:AG:GR:mf

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APPENDIX A
OFFICE SUPPLY STOCK

ITEM	SIZE	UNIT MEASURE	COL. A INITIAL	COL. B EVERY 2Mo.
Battery Pack of 2	AA	Each	5	2
Binder	2"	Each	10	2
Clamps Strong Ideal #1	$1^{7}/_{8}$" $2^{5}/_{8}$"	Dozen Dozen	5 5	1 1
Clamps Strong Ideal #2	$1^{5}/_{8}$" $1^{1}/_{2}$"	50 / Box 50 / Box	3 3	1 1
Clip Binder Medium	$1^{1}/_{4}$"	12 / Box	3	2
Clips Paper - Large	2" Jumbo	100 / Box	4	2
Clips Paper - Small	$1^{3}/_{8}$"	100 / Box	3	2
Correction Fluid - Just for Copies		Each	4	2
Correction Fluid - Mistake Out		Each	4	2
Diskette DS/HD	$3^{1}/_{2}$"	10 / Box	10	2
Envelope Interoffice	10 x 15"	100 / Box	1	1
Erasers - Staedtler		Dozen	2	
Beveled Edge Folder - Hanging Legal	$8^{1}/_{2}$" x 14"	25 / Box	5	2
Folder File Manila Straight Cut	Legal	100 / Box	2	1
Letter Opener		Each	3	
Highlighter - Assorted Colors	0, 7MM	Each	3	1
Marker - Broad Tip, Black		Each	5	2
Marker - Broad Tip, Red		Each	5	2
Pads - 3M Post It Self Stick	3" x 3"	Each	10	5
Pads Ruled White	$8^{1}/_{2}$" x 14"	Dozen	2	1
Paper (Copier)	$8^{1}/_{2}$" x 11"	500 Sheet / Box	10	10
Paper (Copier)	$8^{1}/_{2}$" x 14"	500 Sheet / Box	5	5
Paper (Copier)	11" x 17"	500 Sheet / Box	5	3
Pen - Uni-Ball Roller Black	.3MM	Dozen	2	1
Pen - Uni-Ball Roller Blue	Fine	Dozen	2	1
Wastepaper Basket	101/4 Gallon	Each	3	

Continued

APPENDIX A (Continued)

Punch - Three Hole GBC Bates Mega Duty	3 Hole, 2 Hole	Each	1	
Pencil #2		Dozen	3	
Pencil - Red		Dozen	3	1
Push Pins		100 / Box	2	1
Rubber Bands		1/4 lb. / Box	2	
Ruler	12" Flat	Each	2	
Scissors	7"	Each	3	
Stamp Pad	$2^{3}/_{4}$" x $4^{1}/_{2}$"	Each	2	
Staple Removal		Each	3	
Received Stamp w/Date		Each	3	
Stapler - Swingline (B)		Each	2	
Staples Slimline St.		Each	4	1
Surge Suppressor		Each	4	
Tape Dispenser		Each	3	
Tape - Scotch Transparent 2	1/2"	Each	2	2
Tape - Scotch Transparent 3	3/4"	Each	2	2
Telephone Memo Books		Each	1	1
Tray, Stacking Letter		Each	10	
Adding Machine Paper		Each	3	1
Toilet Paper		Dozen	2	1
Paper Towels		Dozen	2	1
Flashlight - Mag. w/Batteries	16"	Each	2	
Portable Ribbon-Printing Calculator		Each	2	
Desk Calendar		Each	2	
Rolodex Card File		Each	2	
Electric Pencil Sharpener		Each	1	
Operable - 5 lb Fire Extinguishers		Each	1	

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SECTION S01535
SAFETY PROGRAM

1.01 SAFETY PROGRAM REQUIREMENTS

A. Establish and implement a Site Safety Program to ensure protection of persons and property on the Site and surrounding areas.

B. As part of the Site Safety Program, prepare a Site Safety Plan.

C. The Site Safety Program shall be in compliance with the most stringent requirements of the Authority's Site Safety Manual; the 2008 New York City Building Code including, but not limited to, Chapter 33 entitled "Safeguards During Construction or Demolition"; the New York City Fire Code and other codes and regulations having jurisdiction. As part of the Site Safety Program, provide additional precautions and safeguards as indicated on the Drawings, as specified herein, and where required for proper protection of persons and property.

1.02 SUBMITTALS

A. Site Safety Plan

1. Submit for review a Site Safety Plan to the Authority's Safety Unit within 5 days of Notice to Proceed (NTP).

2. The Site Safety Plan shall be prepared, signed and sealed by a N.Y.C. licensed Site Safety Manager certified by the New York City Department of Buildings.

3. The Site Safety Plan shall include, but not be limited to, the following:

a. Complete plans of the entire site, including building interiors, areas inside the property line, and surrounding areas outside the property line.

b. Location of sidewalk sheds, fences, egress ways inside the building, sanitary facilities, scaffolding, fire protection, demolition safety zone and all other required elements. Indicate all areas of the building, site and surrounding areas that will be impacted by the

Work. Show temporary facilities, equipment, work areas, storage areas, contractor's access ways, and all locations where the public or school occupants may be affected in the course of the Work.

c. Separate drawings for multiple phasing periods, if applicable.

4. Conduct all inspections and probes necessary to determine the impact of the Work on areas adjacent to, and above or below the Work areas. Include all affected areas in the Safety Plan.

1.03 COORDINATION AND SAFETY MEETINGS

A. When directed by the Authority's Representative, attend a meeting with school officials to coordinate the Safety Program with school functions and the construction schedule.

B. Schedule and attend all safety meetings as described in the Authority's Safety Manual. Safety meetings shall be held at least once per week.

1.04 SAFETY FACILITIES AND CONTROLS

A. Provide and maintain all temporary facilities and controls required for implementation of the Site Safety Program.

B. Provide sidewalk sheds where indicated in the Contract Documents, where required by law, and wherever the Work has the potential of creating an overhead hazard that could lead to serious injury or death.

C. Unless approved in writing by the Authority, sidewalk sheds, on-site sheds, and fences shall not be dismantled or relocated as work proceeds at various locations of the building. All protection shall remain in place at all times until the Authority's Representative directs its removal in writing.

D. Protective sheds located within the property line, on-site, for protection from overhead hazards shall be constructed in the same manner as required by Code and the Contract Documents for sidewalk sheds and shall have the same auxiliary elements including electrical lighting.

E. Where overhead protection is required, partial closing of sidewalks or streets will not be permitted. Proper protection shall be provided by means of sidewalk sheds or full street closing. Full street closing shall include the street and the sidewalks on both sides of the street.

1.05 CORRECTION OF SAFETY DEFICIENCIES

A. No unsafe condition shall be left uncorrected.

B. Where a deficiency noted during a safety inspection does not entail the existence of a hazardous condition, the maximum time for correction of the deficiency shall be 24 hours, except where a shorter response time is required by the Authority's Safety Manual, other Contract Documents, local regulations, or the Authority's Representative. New York City Fire Department inspection deficiencies and all hazardous conditions shall be acted upon immediately and corrected before leaving the site.

END OF SECTION

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SECTION S01630
PRODUCT SUBSTITUTIONS

1.01 SUMMARY

A. Products, materials, systems and equipment (collectively called "products") specified within the technical sections (Divisions 2 through 16) and Drawings shall be used for this Project unless approval for submitted "or Equal" substitutions is obtained from the Authority.

B. Consideration for approval of substituted "products" is as stipulated in Article 4 of the General Conditions, Section 4.04, entitled "Or Equal Clause".

C. The Contractor shall allow ample time, as stipulated by Article 1.02 below, for the Authority to review each substitution submission. If at any time during the review process the Contractor believes that the review process is adversely affecting the completion dates, the request is to be considered denied. The Contractor shall immediately proceed with submitting and utilizing the specified product(s). Under no circumstances will an extension of time be granted nor additional costs be paid for any reason whatsoever relating to the review process.

D. Basis of Design: "Products" specifically designated on the drawings by manufacturer name(s) and model numbers are the Basis of Design (e.g. mechanical equipment such as roof top units, boilers, etc.). Use of "products" of other manufacturers meeting the requirements of the specification, including those manufacturers and products listed in the specification, shall be considered an "Or Equal" substitution. Factors for consideration shall include function, dimension, in-service performance, physical properties, appearance, and other characteristics. Refer to Paragraph 1.04 for information as to the Contractor's responsibilities for accommodations needed as a result of an approved "Or Equal" substitution. If an "Or Equal" product will not fit into the location designed without reconfiguring the space, the "product" is not to be submitted.

E. The Contractor's request for substitutions with "alternate" "products" (those that do not meet the Contract requirements, i.e. not an "or Equal") will be evaluated on a case-by-case basis within the sole discretion of the Authority. The schedule for submission and review of "alternate" "products" shall be the same as described in Article 1.02.

1.02 SUBMITTALS

A. Substitution Submittal Schedule

1. The construction completion dates shall not be adversely affected by the substitution of specified items. Complete requests for substitutions must be submitted so as to allow sufficient time for review, fabrication, delivery, installation, and all construction modifications necessitated by the substitution. Should the package be incomplete, additional information will be requested by the Authority. The additional information must be submitted with the same time considerations.

2. Requests for substitution will only be considered if received in a time frame that will allow for the review process required by this specification as well as ordering of the material without delay to the project, whether the product is approved or disapproved. At a minimum, product must be submitted sixty days prior to the intended ordering date of the item that will allow installation to commence per the Detailed Baseline Project Schedule. The Contractor is responsible for determining the actual submission time frame required to go through the substitution process, account for submission of a specified item in case the proposed product is rejected, and manufacturer and delivery time to the project site.

3. The following items, as applicable to the project, require additional time for review. In addition to the period indicated above, an additional 2 weeks above that provided in paragraph A.2 above shall be allowed for the review process:

   a. Architectural systems and components
      1) Windows & Skylights
      2) Synthetic Turf
      3) Playground Equipment
      4) Roofing
      5) Waterproofing Systems
      6) Self-leveling Underlayments
      7) Door hardware

   b. HVAC systems and components
      1) Boilers and appurtenances
      2) Chillers

3) Custom and Commercial Packaged Rooftop Heating and Cooling Units
4) Digital and Pneumatic Controls
5) Oil Leak Detection System and components
6) Gas Leak Detection System and components

c. P&D systems and components
1) Roof Drains used in Roof Detention Systems
2) Acid Waste System and components
3) Water heater and components
4) Drinking Fountain, Combination Sink & Drinking Fountain and Cuspidor
5) Plumbing fixtures and accessories
6) Gas Booster Pump and accessories
7) Potable Water System and components

d. Fire Suppression systems and Components
1) Sprinkler System and components
2) Fire Standpipe System and components

e. Electrical critical systems and components
1) Fire Alarm System and components
2) Intrusion Alarm System and components
3) Video Surveillance System and components
4) Lighting Controls
5) PA System
6) Direct/Indirect Lighting Systems

f. Multiple Discipline systems and components
1) Laboratory Equipment and Furniture
2) Emergency Generator System
3) Vertical Conveying Systems

4. Within twenty-one days of receipt of the request for substitution to the Architect/Engineer of Records Office, the Authority may request additional information or documentation for the evaluation of the request. Within forty-two days of receipt of the original request, or twenty-one days of receipt of the additional information or documentation, whichever is later, the Authority will notify the Contractor of acceptance or rejection of the proposed substitution. If a decision on the use of a proposed substitute cannot be made or obtained within the time allocated, the Contractor must use the products specified by name. No time extensions will be granted due to the approval process or the rejection of a substitution.

B. Substitution Submittal Procedure

1. Each substitution submitted to the Authority for consideration shall be separate and distinct from a regular submittal and stamped as such. Submit six (6) copies of each request. Each request shall identify the material, item of equipment, installation method etc. proposed for substitution. Include the related Contract Specification and Contract drawing numbers(s). Provide complete documentation showing compliance with the specified requirements. Such documentation shall include, but not be limited to the following:

   a. Product Data, including drawings, fabrication, and installation procedures.

   b. Samples, where samples of the specified product are required, or subsequently requested.

   c. A detailed comparison of significant qualities of the proposed substitution with those of the material or work specified. Significant qualities may include elements such as size, weight, durability, performance, life cycle, visual effect, code compliance, maintenance requirements, energy usage, compatibility with other portions of the Work, and environmental considerations.

   d. Coordination information, including a list of changes or modifications to be made to other parts of the Work including the Work to be performed of other trades and for construction performed by others that will become necessary to accommodate and to accept the proposed substitution.

   e. Warranty information, with any deviations from the Contact requirements highlighted.

   f. For alternate substitutions, the submittal must clearly demonstrate the benefit, in cost and/or time, of implementing the substitution.

2. Failure by the Contractor to include the above requirements in the submittal may cause rejection of the submittal in its entirety.

1.03 APPROVAL DECISION

A. The decision for approval or rejection of a product substitution shall rest solely with the Authority.

1.04 ACCOMMODATIONS FOR SUBSTITUTIONS

A. The costs of all accommodations and modifications necessitated by the use of an accepted "or Equal" or "alternate" substitution (e.g. steel modifications, revised openings, added supports, power modifications, etc.) shall be borne by the Contractor. Furthermore, the Contractor shall be responsible for any fees charged by the Designer of Record which relate to acceptance and incorporation of the substitution into the Design Documents.

1.05 OPTIONS

A. When Contractor's options are allowed for use of certain products, materials, systems, and equipment for this Project, conditions shall be as set out in the respective technical Sections.

END OF SECTION

SECTION S01650
FACILITY START-UP, DEMONSTRATION, AND TRAINING

1.01 START-UP AND DEMONSTRATION

A. The Contractor shall start-up and demonstrate, in the presence of the Authority's Representative and designees, the proper operation of all systems and equipment required by this Contract; refer to respective technical Sections for detailed procedures. If procedures are not specified for specific items of systems and equipment, follow that recommended by the item Manufacturer.

1.02 SUBMITTALS

A. Training Outline

1. Provide an outline of the intended training to be accomplished at each session for each system.

B. Training Schedule

1. Provide a detailed training schedule that is to be updated regularly. The schedule shall have the following information:

   a. Columns for Spec Section and system or equipment.

   b. Column for submittal date of training syllabus.

   c. Columns for start and finish dates for the installation, testing, and training of each system and equipment, as well as a column for when the items are accepted.

   d. A column for the proposed parties involved for each system and equipment training

   e. Comments column

2. A preliminary training schedule is to be submitted in hard copy and in electronic format on CD-ROM, or other media accepted by the Authority. The Authority will verify the required parties to be trained for each of the systems and/or equipment. The schedule is to be updated on a weekly basis as training begins and is completed for each system and equipment and shall be provided to the

Authority.

C. Operations and Maintenance (O&M) Manuals for systems and/or equipment must be submitted prior to the training sessions(s) for each system or item of equipment. If approval of any O&M manuals is required under this Contract, the Contractor shall allow ample time for approval. Manuals shall be submitted in accordance with Section S01730.

1.03 TRAINING

A. The Contractor shall provide the services of factory-trained representatives to instruct and train designated Authority and Department of Education personnel in the proper operation and maintenance of each item of system and equipment.

B. The Contractor and the Authority's Representative shall mutually agree upon the times set for the instruction and training.

C. The Contractor shall provide a digitally recorded video of all the training sessions for the various equipment and systems as specified in the individual technical sections of these Specifications. The digital video recording shall be provided using CD-Rom or similar electronic media acceptable to the Authority and the DOE. The term "videotape", if used in the technical sections, shall mean a digital video recording. If a manufacturer's particular equipment item is furnished with a training video, the manufacturer's video shall be provided in electronic format in addition to the requirements of this Section, not in lieu thereof and at no additional cost to the Authority. The Contractor shall be responsible for providing informative recordings covering all the materials and content outlined in each individual section of these Specifications.

D. The Contractor shall document the attendance at each Training Session presented for each system or item of equipment. Upon the completion of the training curriculum for the particular system or item of equipment, the Contractor shall obtain an attendance sheet signed by all trainees that have been designated by the Authority as requiring such training.

1.04 MEP SYSTEM OPERATION TRAINING

A. Training of custodial staff: The Contractor shall advise the custodial staff, through the Project Manager, of the schedule of installation of MEP equipment. During the construction phase, the Custodian shall have access to the site as an observer during all times Contractor is working. The Project Manager will advise the Custodian not to interfere or give directives to the Contractor.

The Custodian shall be advised of all checkouts and adjustments to systems in preparation to startup and shall be given the opportunity to observe this phase of the installation.

B. The Contractor shall furnish the services of a factory-trained representative, whose duty shall be to train the Custodian in the operation, troubleshooting and basic maintenance of each mechanical system.

C. Operating and maintenance instructions shall consist of not less than 10 days for heating, ventilating and air-conditioning equipment apportioned as follows:

1. The Custodian shall be instructed in the operation and maintenance requirements of the heating and ventilating system on 5 consecutive school days between the hours of 8:00 a.m. and 3:00 p.m.

2. The Custodian shall be instructed in the operation and maintenance requirements of the refrigeration equipment during 2 consecutive days as designated by the Contract Documents.

3. The Custodian shall be instructed in the operation and maintenance of the temperature control system, pumps and all other systems and equipment installed under this Contract during any 3 school days (not necessarily consecutive) between the hours of 8:00 a.m. and 3:00 p.m.

4. The exact dates and hours for the instruction periods indicated in 1., 2., 3. above, will be mutually agreeable to the Project Manager, Contractor, and the Custodian.

5. The number of days for the instruction periods indicated in 1., 2., 3., above is a minimum; if the Authority determines that more instruction time is needed for the Custodian to be adequately trained

in the operation and maintenance of the mechanical equipment, Contractor shall provide the additional training at no extra cost to the Authority.

END OF SECTION

SECTION S01660
SUPPLEMENTAL COMMISSIONING REQUIREMENTS

1.01 SUMMARY

A. This Section includes supplemental requirements for implementation of commissioning of systems, subsystems, and equipment being commissioned. Individual technical Sections in Divisions 2 through 16 describe detailed requirements for functional testing and integration of systems.

1.02 DEFINITIONS

A. Commissioning: A quality control process for achieving, validating, and documenting that the facility and its systems are designed, installed, tested, and are capable of being operated and maintained to perform in conformity with the Owner's Project Requirements and the design intent.

B. Owner's Project Requirements: The spatial, thermal, air quality, acoustical, visual, functional and overall system performance requirements expected by the Owner as a result of the implementation of the design.

C. Facility Management Systems Integrator (FMSI): An agent of the Authority having responsibility to evaluate, oversee, coordinate and inspect the installation and interfaces of the Building Management System with the Department of Education, Division of School Facilities Central Host Control Station.

D. Systems, Subsystems, and Equipment: Where these terms are used together or separately, they shall mean "as-built" systems, subsystems, and equipment.

E. TAB: Testing, Adjusting, and Balancing.

1.03 COMMISSIONING TEAM

A. The Commissioning Team has been explicitly organized to implement the commissioning process through coordinated actions. The Commissioning Team shall consist of, but not be limited to, representatives of each group as follows:

1. SCA Total Building Commissioning (TBC) Unit: Commissioning Manager (or his/her designee)

2. Department of Education - Division of School Facilities: Program Manager and Information Systems Representatives

3. SCA Project Management: Project Officer, Controlled Inspection Lab, Specialized Inspection Lab

4. SCA Architecture & Engineering Department: SCA Design Manager; Designer of Record; and Facilities Management Systems Integrator (FMSI).

5. SCA Facilities Inspection Division (FID): Electrical Inspectors (QA/QC & Code compliance); Mechanical Inspectors for both HVAC and P&D (QA/QC & Code compliance); Architectural Inspectors (QA/QC & Code compliance); and DOB Inspection & Technical Closeout Group

6. General Contractor: Contractor Quality Control Representative; Subcontractor's and Supplier's Representatives; and Manufacturers Representatives

1.04 CONTRACTOR'S RESPONSIBILITIES FOR COMMISSIONING

A. The following Commissioning Requirements are presented to supplement the full range of responsibilities placed on the Contractor by the Contract Documents. The Contractor is responsible to ensure the sub-contractors and manufacturer's providing services for the Contractor perform their required tasks.

1. General Contractor Quality Control

   a. Coordinate initial review and processing of submissions and contract deliverables in accordance with applicable technical specifications and Contractor Quality Control (CQC) Program.

   b. Implement the three-phase QC Inspection System as outlined in the Contractor Quality Control Program.

1) Preparatory Inspections
2) Initial Inspections
3) Follow-Up Inspections

c. Schedule and coordinate with FID, the Specialized Inspections and Controlled Inspections

d. Schedule and coordinate inspections, observations, tests and verifications to be performed by the Facilities Management Systems Integrator (FMSI) as detailed in the Contract Documents.

e. The Contractor shall perform necessary Interdisciplinary Tests and Functional Performance Tests (FPT) as described in the manufacturers' literature required by the Contract. Contractor shall submit written affidavit indicating that all equipment is operating as designed. The Contractor and Subcontractors whose work supplies, controls, or interacts with any system, subsystem, or equipment herein specified shall be responsible for satisfactory demonstration by the appropriate Functional Performance Test (FPT) of their work product as installed. The Contractor and Subcontractors are responsible to be present and to participate in any test and retest required, and shall have any other technical personnel required to conduct the Interdisciplinary Tests and Functional Performance Tests successfully.

f. Coordinate and maintain documentation required for the commissioning process as part of the CQC activities, including the documentation of subcontractors and suppliers.

g. Prior to Substantial Completion and as a condition for such, the Contractor shall demonstrate substantial conformance with applicable Interdisciplinary/Functional Performance Tests for all equipment and

systems as detailed in the Contract Documents.

2. Subcontractors and Suppliers Quality Control

   a. Prepare and submit appropriate contract submissions for approval.

   b. Perform all required Interdisciplinary and Functional Performance Tests (FPT) required by Contract documents.

   c. Perform all corrections and adjustments to the work and re-test as required.

3. Manufacturers Representatives Quality Control

   a. Provide training and training data as required by Contract.

   b. Coordinate special tests, demonstrations and start-up details as required.

   c. Provide warranties, guarantees, and certifications as required by Contract.

   d. Provide technicians who are familiar with the construction and operation of installed systems and who shall be on call for start-up, training and turn-over operations.

END OF SECTION

SECTION S01730
SYSTEMS OPERATION AND MAINTENANCE MANUALS

1.01 SUMMARY

A. Prior to the final inspection, adjustment and startup of systems provided under this Contract, the Contractor shall:

1. Prepare and submit operation and maintenance manuals for building operating systems and equipment.

2. Prepare and submit instruction manuals covering the care, preservation and maintenance of architectural products and finishes.

B. Special operating and maintenance data requirements for specific materials, equipment or building operating systems are included in the appropriate Specification Sections of Divisions 2 through 16.

C. The Contractor shall provide a complete, uniform, collated set of documents described herein.

1.02 SUBMITTALS

A. Schedule

1. Initial Submittal

a. Equipment and Systems Operation and Maintenance Manuals: At least sixty (60) days prior to required training for individual equipment installations, submit two (2) copies of each complete manual to the Authority for review. Include a complete index of each manual. The Authority will return one copy with comments within twenty-one (21) days of receipt.

b. Materials and Finish Maintenance Manuals: At least sixty (60) days prior to Substantial Completion, submit two copies of each manual to the Authority for review. Include a complete index of each manual. The Authority will return one copy with comments within twenty-one (21) days of receipt.

2. Final submittal

a. Equipment and Systems Operation and Maintenance Manuals: At least fifteen (15) days before training, submit three (3) copies of each corrected manual in final form. Manuals shall be forwarded in suitable transfer cases, properly labeled as to the name and number of the Contract; date of submittal; name, address and telephone number of the Contractor; and description of subject matter contained within.

b. Materials and Finish Maintenance Manuals: At least fifteen (15) days before substantial completion, submit three (3) copies of each corrected manual in final form. Manuals shall be forwarded in suitable transfer cases, properly labeled as to the name and number of the Contract; date of submittal; name, address and telephone number of the Contractor; and description of subject matter contained within.

B. Form of Submittal

The Contractor shall submit the Operation and Maintenance Manuals in the form of an instructional manual as well as in digital format for use by the DOE's operating personnel. Organize such manuals and digital media into suitable sets of manageable size. Where possible, assemble instructions for similar equipment in a single binder and CD-Rom or other acceptable electronic media. Plumbing, mechanical and electrical equipment operation and maintenance manuals shall be divided into separate binders by technical discipline.

1. Binders: For each manual, provide heavy gauge, commercial quality, durable 3 ring elliptical, heavy board, vinyl-covered loose-leaf binders, in thickness as necessary to accommodate contents, sized to receive $8^{1}/_{2}$ in. x 11 in. paper. Binders shall also have plastic sheet lifters, metal backbone, metal hinges, concealed rivet construction and three-trigger position Dublock mechanism (lock, unlock, open). The binder shall have a clear plastic sleeve on the spine to hold labels describing the contents and pockets in the inside covers to store additional material if

necessary. Binder color shall be selected by the Authority.

a. Where two or more binders are necessary to accommodate data, compile material in each binder into related groupings in accordance with the Specification's Table of Contents. Cross-reference other binders where necessary to provide essential information for proper operation or maintenance of the piece of equipment or system.

b. Binders shall be identified on the front and spine with the typed or printed title "EQUIPMENT AND SYSTEMS OPERATION AND MAINTENANCE MANUALS" or "MATERIAL AND FINISHES MAINTENANCE MANUALS" (whichever is applicable), Contract number and name, and subject matter covered. Volume numbers for multiple volume sets of manuals shall be indicated. The use of business labels is prohibited.

2. Dividers: Provide 3-hole, heavy weight, white ledger stock paper dividers with clear celluloid insertable tabs for each separate Section. Provide typewritten description for each tab insert (front & back), to indicate the appropriate Specification Section. Provide a typed description of the product and major parts of equipment included in the Section on each divider.

3. Protective Plastic Jackets: Provide protective transparent plastic jackets designed to enclose diagnostic software for computerized electronic equipment.

4. Text Material: Where written material is required as part of the manual, use the manufacturer's standard printed material, or if it is not available, specially prepared data, neatly typewritten, on $8^{1}/_{2}$in. x 11 in., 20 lb. white bond paper.

5. Drawings: Where drawings or diagrams are required as part of the manual, provide reinforced punched binder tabs on the drawings and include with the text.

a. Where oversize drawings are necessary, fold the drawings to the same size as the text pages and use as a fold-out.

b. If drawings are too large to be practically used as a fold-out, place the drawing, neatly folded, in the front or rear pocket of the binder. Insert a typewritten page indicating the drawing title, description of contents and drawing location at the appropriate location in the manual. Drawings shall cross reference the appropriate manual volume and Specification Section.

6. In digital format, provide the same breakdown as described above in the manuals. Provide in CD-Rom or other digital media acceptable to the Authority.

1.03 MANUAL CONTENT (GENERAL)

A. In each manual, the Contractor shall include the information specified in the individual Specification Section and the following information for all components of building equipment and its controls:

1. General system or equipment description.

2. Design factors and assumptions.

3. Copies of approved shop drawings, product data, installation instructions and setup/calibration procedures.

4. Load and performance testing reports including equipment and system startup/performance documentation.

5. Fire/flame spread test certificates.

6. System or equipment identification, including:

a. Name of manufacturer/vendor/installing contractor address, point of contact and telephone numbers.

b. Model number.

c. Serial number of each component.

7. Standard operating instructions.

8. Emergency operating instructions.

9. Wiring diagrams including color coding, labeling and terminal designations. Where field connections are made to other systems, terminal IDs for both systems and any connection points necessary must be indicated.

10. Inspection and test procedures.

11. Detailed preventive maintenance procedures, frequencies and special tool requirements.

12. Operator trouble-shooting guide.

13. Precautions against improper use and maintenance.

14. Copies of warranties, including extended warranty options.

15. General owners operating/service manual.

16. Factory service manuals, including repair instructions and illustrated parts listing.

17. Material Safety Data sheets.

18. Sources of required maintenance materials repair/replacement parts and related services.

19. Copies of inspections and certifications by governing authorities.

B. Manual Index

Organize each Manual into separate sections for each piece of related equipment. As a minimum, each manual shall contain a title page, a table of contents, and copies of Product Data, supplemented by drawings and written text.

C. Title Page

Provide a title page in a transparent plastic envelope as the first sheet of each manual. Provide the following information.

1. Subject matter covered by the manual.

2. Name and number of the Contract.

3. Date of submittal.

4. Name, address, and telephone number of the Contractor and Subcontractor.

5. Name, address and telephone number of the Architect and the Engineer of Record.

6. Cross reference to related systems in other operation and maintenance manuals.

D. Table of Contents

1. Include a typewritten table of contents for each volume after the Title Page, arranged systematically according to the specification format. A list of each product identified by product name or other appropriate identifying symbol and indexed to the content of the volume shall be included. The Table of Contents shall also be provided in electronic form.

   a. Where more than one volume is required to accommodate data for a particular system, provide a comprehensive table of contents for all volumes in each volume of the set.

E. General Information

Provide a general information Section immediately following the Table of Contents, listing by specification Section each product included in the manual, identified by product name. Under each product, list the name, address, telephone number and point of contact of the subcontractor or installer, and the maintenance contractor (if applicable). Clearly delineate the extent of responsibility of each of these entities. In addition, list a local source for replacement parts and equipment.

F. Product Data

Where manufacturer's standard printed data is included in the manuals, include only sheets that are pertinent to the part or product installed. Mark each sheet to identify each part or product included in the installation. Where more than one item in a tabular

format is included, identify each item, using appropriate references from the Contract Documents. Identify data that is applicable to the installation and delete references to information that is not applicable.

G. Written Text

Where manufacturer's standard printed data is not available, and information is necessary for proper operation and maintenance of equipment or systems or it is necessary to provide additional information to supplement data included in the manual, prepare written text to provide necessary information. Organize the text in a consistent format under separate headings for different procedures. Where necessary, provide a logical sequence of instruction for each operation or maintenance procedure.

H. Drawings

Provide specially prepared drawings where necessary to supplement manufacturer's printed data to illustrate the relationship or component parts of equipment or systems, or to provide control or flow diagrams. Coordinate these drawings with information contained in the Record Documents to assure correct illustration of the completed installation. Do not use original Project Documents as part of the Operation and Maintenance Manuals.

1.04 EQUIPMENT AND SYSTEMS OPERATION AND MAINTENANCE MANUALS

A. The Contractor shall refer to the individual technical Specification Sections for the equipment and systems that require such manuals to be provided and for additional information regarding the operation and maintenance of the various pieces of equipment and operating systems that shall be included in the manuals.

B. Provide separate manuals for each grouping of similar equipment, each operating system, and each electric and electronic system.

C. Provide the following information for each piece of equipment, each building operating system, and each electronic or electronic system.

1. Description: Provide a complete description of each unit and related component parts, including the following information:

a. Equipment or system function.

b. Operating characteristics.

c. Limiting conditions.

d. Performance curves.

e. Engineering data and tests.

f. Complete nomenclatures and number of replacement parts.

2. Manufacturer's Information: For each manufacturer of a component part or piece of equipment, provide the following information:

a. Printed operating and maintenance instructions.

b. Assembly drawings and diagram required for maintenance.

c. Recommended parts inventory listing.

3. Maintenance Procedures: Provide information detailing essential maintenance procedures, including:

a. Routine operations.

b. Trouble shooting guide.

c. Disassembly, repair and reassembly.

d. Alignment, adjusting and checking.

4. Operating Procedures: Provide equipment and system operating procedures, including the following information:

a. Start-up procedures.

b. Equipment or system break-in.

c. Routine and normal operating instructions.

d. Regulation and control procedures.

e. Instructions on stopping.

f. Shut-down and emergency instructions.

g. Day and night operation.

h. Summer and winter operating instructions.

i. Required sequences for pneumatic, electric, electronic or direct digital control systems.

j. Special operating Instructions.

5. Servicing Schedule: Provide a schedule of routine servicing and lubrication requirements, including a list of required lubricants for equipment with moving parts. Include recommended schedule for calibrating any sensors and actuators.

6. Controls: Provide a comprehensive description of the sequence of operation and as-installed control diagrams by the control manufacturer for systems requiring controls.

7. Coordinating Drawings: Provide coordination Drawings of each sub-contractor.

8. Valve Tags: Provide charts of valve tag numbers, with the room number location and function of each valve.

9. Circuit Directories: For electric and electronic systems, provide complete circuit directories of panelboards, including the following information:

a. Electric service.

b. Controls.

c. Telecommunications.

d. Computer network.

e. Security.

1.05 MATERIAL AND FINISHES MAINTENANCE MANUALS

A. The Contractor shall refer to the individual technical Specification Sections for the products and materials that require such manuals to be provided and for additional information on the care and maintenance of

materials and finishes that shall be included in the manual.

B. Provide one section for architectural products, including applied materials and finishes, and a second section for products designed for moisture protection and products exposed to the weather.

C. Architectural Products

Provide manufacturers' data and instructions on care and maintenance of architectural products, including applied materials and finishes.

1. Manufacturer's Data: Provide complete information on architectural products, including the following information, as applicable:

   a. Manufacturer's catalog number.

   b. Size.

   c. Material composition.

   d. Color.

   e. Texture.

   f. Reordering information for specially manufactured products.

2. Care and Maintenance Instructions: Provide information on care and maintenance, including manufacturer's recommendations for types of cleaning agents to be used and methods of cleaning, highlighting any item that could be damaged by normal/standard cleaning methods. Information regarding cleaning agents and methods that could prove detrimental to the product shall also be included. Include manufacturers' recommended schedule for cleaning and maintenance.

D. Moisture-Protection and Weather-Exposed Products

Provide complete manufacturers' data, including instructions for inspection, maintenance and repair of products exposed to the weather or designed for moisture protection purposes.

1. Manufacturers' Data: Provide manufacturers' data, including the following detailed information, as applicable:

   a. Applicable standards.

   b. Chemical composition.

   c. Installation details.

   d. Inspection procedures.

   e. Texture.

   f. Reordering information for specially manufactured products.

   g. Maintenance information.

   h. Repair procedures.

2. Care and Maintenance Instructions: Provide information on care and maintenance, including manufacturer's recommendations for types of cleaning agents to be used and methods of cleaning, highlighting any item that could be damaged by normal/standard cleaning methods. Information regarding cleaning agents and methods that could prove detrimental to the product shall also be included. Include manufacturers' recommended schedule for cleaning and maintenance.

END OF SECTION

SECTION S01900
EXISTING PREMISES WORK

1.01 DESCRIPTION OF WORK

A. This section applies to all work conducted in existing premises. This includes work that may generate dust and debris, work that disturbs painted surfaces assumed or known to be lead-based paint and/or that disturbs ballasts, light bulbs, batteries, Mercury Containing Equipment, electronics or other hazardous materials not specifically covered in other specifications.

B. Unless the Authority provides information regarding the lead content of specific painted surfaces, all interior painted surfaces are assumed to contain lead-based paint. Manage all waste and waste water as described in Articles 1.25 and 1.26, including determining if it is Toxicity Characteristic (e.g. lead containing) hazardous waste. Architectural and electronics wastes that would otherwise be hazardous waste due to metals (e.g., scrap metal with lead-based paint, computers) may only be recycled if the contractor meets the New York State Department of Environmental Conservation (NYSDEC) hazardous waste recycling regulations (e.g., 6 NYCRR 371.1(c)(7)) notification). The Contractor shall provide all labor, equipment and materials for performance of the Work in accordance with the Contract Documents.

C. All requirements of this specification that refer to "lead-based paint work in 'target' areas" apply to all work in:

1. 1st Grade, Kindergarten, pre-K, LYFE centers, Special Ed and Pregnant Student Program areas as well as any spaces in which these students visit regularly at least 2 days/week provided that each day's visit lasts at least 3 hours and the combined weekly visits last at least 6 hours, and the combined annual visits last at least 60 hours, and

2. "Common areas" routinely used by children under age 6, such as restrooms and cafeterias (but not hallways, stairways, and garages) and the exterior sides of the building that are immediately adjacent to classrooms or common areas for children under 6.

D. This section shall be used in conjunction with other Specifications that also apply, notably where building materials contains asbestos or "PCB-containing caulk"

containing more than 50 parts per million (ppm) of Polychlorinated Biphenyls (PCBs).

1. Where painted caulk or other building materials being removed is also an Asbestos Containing Material (ACM), follow applicable provisions of both Specification S02081 and this specification.

2. Where painted caulk being removed is also a PCB-containing caulk, follow applicable provisions of both Specification S02082 and this specification.

1.02 SITE REQUIREMENTS

A. Noise Control: Provide mufflers on all equipment to be used by the Contractor. Observe local laws regarding noise control.

1.03 HEALTH AND SAFETY

A. Toxic Effects: The Contractor shall assume all responsibility for any toxic effects to workers from the dusts, vapors or residues generated in their work, including the use of any substances or equipment used by the Contractor during construction.

B. Chemical/Biological Hazards: The known chemical/ biological hazards on site include lead-based paint containing material and debris. The Contractor shall provide materials, equipment and training to its workers to ensure their protection from these and any other hazards which may be identified during the work.

C. Physical Hazards: The Contractor shall provide safety equipment and training to his workers to ensure their protection from any physical hazards including but not limited to trip/fall hazards, working at elevation, heat stress, contact with energized (hot) active equipment, noise, overhead bump hazards, and electrical shock that may be present during the Work.

D. OSHA Regulations: The Occupational and Safety Health Administration (OSHA) regulations (29 CFR 1926 and 1910) applicable to the work shall be strictly complied with during the course of this project by the Contractor's workmen, tradesmen, materialmen, and subcontractors, and of visitors to the project site. This includes, but is not limited to, the OSHA Hazard Communication Standard (29 CFR 1910.1200) requiring training employees, access to hazardous material information and warning labels.

E. Accident Prevention: The Contractor shall provide and maintain all safety measures necessary to properly protect workmen, comply with the latest edition of the "Manual of Accident Prevention in Construction" issued by the Associated General Contractors of America, Inc. and maintain an accurate record of all accidents which occur during the project. The Contractor shall immediately report an injury or loss of life to the Authority, and a copy of the accident report to his insurer provided.

F. Emergency Response: The Contractor shall establish an Emergency Response Team made up of members of his work force trained for and capable of responding to an accident, fire, or other emergency. The Contractor shall designate a site Safety Coordinator to train the team on location and use of site fire/life safety equipment. At minimum, the Team shall be knowledgeable in first aid, CPR, fire extinguisher use, and evacuation procedures.

G. Emergency Actions: In an emergency affecting the safety of life, the work, or adjoining property, the Contractor, to prevent such threatened loss or injury without special instruction or authorization from the Authority or the Engineer, is hereby permitted to act at his discretion.

1.04 WORK SUPERVISION AND COORDINATION

A. Contractor's Supervisor: From the start of work through completion, the Contractor shall have a responsible and competent supervisor who shall meet the qualifications in Article 1.06 on site during all working hours. When the Supervisor must leave site during work, a temporary Supervisor shall be appointed.

B. Quality of Work: The Supervisor shall supervise and inspect the Work competently and efficiently, devoting such skills and expertise as necessary to ensure the Work is performed in accordance with the Contract Documents, and that all Work is of good quality and workmanship.

1.05 SUBMITTALS

A. Pre-Project Submittal:

1. Provide Certificates of Insurance naming the Authority, Department of Education, and the City of New York as additional insured.

2. Health and Safety Plan (HASP): Provide a written HASP to protect workers and school occupants from possible hazards based on the Contractor's evaluation of tasks to be performed and addressing procedures for work place safety (including meeting 29 CFR 1926.62 for lead-based paint). The Contractor shall submit the HASP at least two (2) weeks prior to commencing construction activities for Authority review addressing, at minimum:

   a. Hazard Communication. Identification of physical and health hazards associated with the work, communication to employees, and name of the person responsible for Hazard Communication Program implementation.

   b. Heat stress assessment/prevention Guidelines.

   c. Procedures for using ladders safely.

   d. Electrical safety procedures.

   e. Hazard/exposure assessments and determination of engineering controls, Personal Protective Equipment and/or monitoring needed to ensure exposure is within OSHA requirements.

   f. Training.

   g. Certifications (e.g., asbestos, for ACM work).

3. Emergency Action Plan: Provide a written Emergency Action Plan that outlines actions to be performed for emergencies including fire, accident, power failure, safety system failure, breach of work area dust barrier, unexpected hazardous material or waste contamination at the site or adjoining grounds, or hazardous material or waste releases. This Plan shall identify how emergencies are announced, escape routes, and procedures to account for all employees after evacuation. The Plan shall identify persons responsible for fire/life safety duties including Site Safety Coordinator, fire prevention equipment and control of fuel hazards, and the Emergency Response Team (see Paragraph "Emergency Response" of Article 1.03). It shall be readily available for review by all workers.

4. Fall Protection Plan: Provide a written Fall Protection Plan that outlines actions to be

performed to protect personnel working at elevation including specific fall protection devices to be used, training provided to personnel for same and training of designated competent person in charge of and responsible for the elevated work site.

5. Provide proof of arrangements for transport and disposal of hazardous, universal and electronics wastes with transporter and disposal or recycling sites that are permitted to accept wastes with the constituents known to be present (e.g., asbestos, PCB, etc.). Provide copies of permits for the hazardous waste hauler, and disposal or recycling site (including each disposal and transit state) to the Authority at least three (3) weeks prior to commencing construction activities for Authority review. If pre-work survey testing indicated there is no lead-based paint, this submittal for lead is only required upon receiving results from waste testing (per Article 1.25) which indicate that construction waste is hazardous waste due to lead.

6. Provide a copy of the "c7" notification to NYSDEC for each recycling facility used to recycle architectural wastes containing lead-based paint (e.g., scrap metal) or electronics waste (e.g., computers, computer peripheral devices, computer monitors, computer projectors, televisions, VCRs, DVD players, printers, fax machines, audio equipment) that would otherwise be hazardous waste at least three (3) weeks prior to commencing construction activities for Authority review, when required by NYSDEC regulations (6 NYCRR 371.1(c)(7))). In the event revised NYSDEC regulations no longer require notification, meet regulatory requirements in effect when the work is performed and provide a copy of communications referencing the facility's capability, permits and agreement to accept the wastes for recycling. For electronics, the communication must reference that it follows all federal, state and local regulations applicable to a Collector, Dismantler, or Recycler of Used Electronic Equipment.

7. Provide manufacturer's literature on all proposed job related equipment and products to be used on this project that require SCA approval. Provide Material Safety Data Sheets (MSDS) for chemicals to be used (e.g., solvents, wetting agents).

8. Provide a sample of the daily log proposed for use. Minimally, it should include date(s) and time(s) when all personnel enter and leave lead-based paint or other hazardous material work area(s).

9. Structural Stability Drawings

B. During Work Submittal:

1. Schedule of Work Changes: Any changes in the Schedule of Work proposed by the Contractor shall be submitted for approval within seven days of the commencement date of the proposed change. Submit a revised Schedule at the end of each week.

2. Submit all waste analysis results used to determine if construction waste is hazardous and a copy of waste profiles approved by the disposal sites immediately upon receipt by the Contractor.

3. Evidence that those signing manifests have received DOT Hazardous Materials Shipping Training (initial and refresher every 3 years per USDOT regulations).

4. A signed, and completed copy of each waste shipping record form used (e.g., hazardous waste manifests, universal and electronics waste shipping papers), associated submittals (e.g., Land Disposal Ban notifications/certifications), and records of the disposal facility's acceptance of the waste, shall be submitted within twenty-four hours of the Contractor's preparing or receiving them.

C. Post Project Submittal:

1. A copy of the bound logbook.

2. Compilation in chronological order of all project personal air monitoring records, if applicable.

3. Compilation of all completed and signed Waste Shipment Record forms, waste analysis results/waste profiles, bills of lading, or disposal/recycling receipt records pertaining to this project.

4. End of job "Contractor Notification Statement" required by EPA for work disturbing lead-based paint in "target" areas stating that the required notices remained Posted throughout the work (pro forma requirement of 40 CFR 745.84(c)(3)).

5. Copies of digital photographs (electronic files) taken during activities disturbing lead-based paint in accordance with Article 1.06.

1.06 QUALITY ASSURANCE

A. Work of this Section involving lead-based paint shall be overseen on-site by the Contractor's Lead-Paint Supervisor who must have received OSHA awareness training and training on the requirements of the Contractors program to comply with 29 CFR 1926.62 and have a minimum of three years experience in supervising either lead abatement, Asbestos Abatement or other hazardous substance abatement/remediation projects.

B. All lead-based paint work after April 22, 2010 in 'target' areas (see paragraph 1.01.C.) in pre-1978 schools disturbing lead-based paint must at minimum be directed by a "Certified Renovator" who will ensure that all work practice requirements are met (40 CFR 745.85), train all workers (40 CFR 745.89 and 90(a) and (b)(2)) and meet all other regulatory obligations (e.g., 40 CFR 745.90).

C. The Contractor shall perform inspections of building material debris to confirm the absence of assumed lead-based paint or shall have TCLP data showing the waste is non-hazardous before the Contractor labels any interior building component waste as non-hazardous waste instead of hazardous waste and offers it for shipment off-site.

D. Digital Photographs shall be taken by the Lead-Paint Supervisor documenting the quality of the work performed in accordance with this Specification Section during lead-based paint disturbance of the activities/areas listed below, when applicable and required.

1. Workers in PPE.

2. Workers utilizing HEPA vacuums.

3. Workers establishing dust barriers, wrapping/ covering objects inside and outside the barrier and performing other critical dust control measures.

4. Exposed soil underneath scaffolding (before and after) and other horizontal surfaces affected by the work (e.g., roof areas near parapet work).

5. Protection of areas beneath scaffolding (i.e. plastic).

6. Windows in the work area (during window removal from opening, plasticized).

7. Air intakes, air conditioners and radiators in the vicinity of the work area (plasticized)

8. Waste storage drums and dumpsters with labels.

9. Work area before and after final clean-up and visual inspection.

10. Interior and exterior window sills (before and after).

11. Interior courtyard conditions (before and after).

1.07 PROTECTION

A. General Safety Restrictions

1. The operation of the fire alarm telegraph, the interior fire alarm system, gongs, bells and telephones shall not be interfered with.

2. Nothing shall be done to in any way block the streets at or about exits, or the exits themselves.

3. There shall be no unauthorized interference with the free and unobstructed use of hallways, stairways, toilets and rooms.

4. Whenever work is carried on during school sessions, not more than one stairway shall be closed off from free and safe use at any time, and this only after written permission is obtained from the Authority.

5. No part of the building or premises shall be closed to the use of the occupants without the permission of the Authority. When such permission has been given, erect temporary partitions and barriers wherever required to ensure the absolute safety of the occupants of the building and premises.

6. Maintain on the premises a complete file of Material Safety Data Sheets for all materials, arranged by specifications section number. The

file shall be available to the Authority's Representative for reference at all times.

B. Precautions Against Fire

1. Take every precaution in the performance of the Work to prevent fires.

2. Smoking shall not be permitted within the premises at any time.

3. N.Y.C. Fire Department regulations shall govern the storage and use of flammable materials. Flammable materials and fire-producing equipment shall not be left unattended in locations accessible to pupils. All polyethylene sheeting shall be flame retardant in accordance with NFPA 701.

4. Rubbish shall be removed as hereinafter specified.

5. Fire extinguishers and other protective equipment shall be provided as required by regulations.

6. During all interruptions of Work, flammable mixtures shall be stored in designated locations.

C. Fire Watch

When open flame or spark-producing tools and equipment such as heating kettles on roofs, blow torches and welding rods are being used, the Contractor shall provide fire guards to maintain a fire watch over the operation of these items at all times during the use and until all materials have cooled sufficiently to no longer constitute a fire hazard. Provide additional fire guards required by Fire Department as determined by the Local Fire Department inspector after Work is under way.

D. Temporary Maintenance of Hazardous Conditions

1. Upon receipt of the Notice to Proceed, carefully inspect all existing work which is required to be repaired, altered or removed. Any such work which is found to be weakened, structurally unsafe or otherwise hazardous, shall be immediately put in a safe condition and so maintained until such time as the permanent work in connection therewith is completed.

2. Any restrictions regarding sequence of operations and locations of work do not apply to the elimination of hazardous conditions; all parts of the premises will be available at all times for the performance of such work.

E. Protection of Property

1. The Contractor shall be responsible for all damage to all new and existing work on the premises due to the Contractor's operations, and shall provide and maintain adequate protection against such damage.

2. The premises shall not be used as a work shop to the detriment of any portion thereof.

3. Desks, tables, benches and other furniture and equipment shall not be used as workbenches; neither shall materials and furniture be piled thereon without proper protection. Where painted surfaces to be disturbed are known or assumed to contain lead-based paint in accordance with Article 1.01, all furniture shall be completely covered and sealed in one layer of 6-mil polyethylene sheeting. The sheeting shall not be removed until clean-up is complete. When test results are provided by the Authority that indicates surfaces do not contain lead-based paint, all furniture shall be protected by drop cloths or 6-mil fire-retardant polyethylene sheeting.

4. Provide decking on floors, steps, platforms, pavements and roofs where subject to damage from heavy traffic.

5. Provide protection of existing roofing and flashing and limit traffic to prevent any damage to the existing work. As a minimum provide a protective compressible layer of polyisocyanurate roof insulation board, 1" minimum thickness, over the existing membrane, and cover this cushion layer with a layer of hard protective board.

   Where there is a warranty in effect, the protection shall be acceptable to the roofing manufacturer such that the existing roof warranty is not jeopardized. Obtain the manufacturer's written approval of the protection methods and submit it to the Authority prior to beginning work on the roof.

6. Protect doors and door jambs when conveying rubbish and materials.

7. Provide and maintain barricades to confine dust to work areas.

8. Provide watertight enclosures over openings at roof and walls; provide watertight protection where tank houses, bulkheads and other roof structures are removed; remove temporary waterproofing protection for installation of new permanent work.

9. All damage to adjoining work due to failure to provide adequate protection shall be corrected by the Contractor at the Contractor's expense.

10. After completion of the Work, the Contractor shall thereafter protect Work until it is accepted.

F. Protection of Public

1. The Contractor shall be responsible for all injury to persons due to the Contractor's operations and shall provide and maintain adequate protection against such injury.

2. Provide guards, rails, barricades, fences, sidewalk sheds, catch-platforms, decking, night lighting, and all other items as required by New York City Building Laws and as further required to provide adequate protection.

3. Protect sidewalks and curbs around the premises so they may be safely used by the public at all times.

4. Provide barricades around work areas as required to prevent pupils and other unauthorized persons from entering therein.

5. Provide plumbing and temporary drainage as required to keep all pits, trenches and other excavations, and the adjoining areas of the premises, dry during the course of the work.

6. Prevent exposure of persons to hazardous materials, offensive odors, noxious or toxic fumes or gases. Ensure that such contaminants are not recirculated through the ventilation systems, or through windows and openings, to occupied areas. Ventilate work areas prior to re-occupancy, to make certain that

odors and gases are properly dissipated. Notify the Authority's Representative to conduct an inspection of affected areas prior to re-occupancy.

G. Stability and Integrity of Existing Structures

1. Shoring of members and protection of the existing structure during construction is the responsibility of the Contractor and shall comply with the requirements of the NYC Building Code.

2. The most stringent requirements of the Building Code, Contract Drawings, Specifications, or any authorities having jurisdiction shall govern this Work.

3. Coordinate Work of this Section with Work of all other Divisions so as to properly, and completely, install all Work as indicated on Drawings or specified.

4. Engage a Professional Engineer licensed in the State of New York to prepare details of bracing, shoring, and other construction required to maintain the structural safety and integrity of the existing structure during construction operations as per paragraph BC 1704.9 of the 2008 NYC Building Code.

a. The Contractor's Engineer shall file Form PW-1 with the Building Department, thereby becoming the Engineer of Record for such protection work and is responsible for shoring and bracing of all members requiring such and for preparation of all design and shop drawings and their approval by the Building Department.

b. The Contractor shall engage a Special Inspector to file Form TR-1 with the Building Department, prior to issuance of permits, and thus is responsible for the Special Inspection described in paragraph BC 1704.9.

1.08 POTENTIALLY HAZARDOUS MATERIALS DISCOVERED DURING WORK

A. The Authority endeavors to identify materials subject to demolition and disturbance that may contain hazardous materials (i.e., asbestos, lead and PCB-containing caulk) prior to defining the work; however, hidden materials may

be discovered upon demolition or removal of building components.

B. Work shall be stopped and the Authority shall be immediately notified whenever caulk, paint or potential asbestos containing material that is not part of a previously sampled homogenous group is discovered. The Authority will confirm whether the material is part of a previously sampled homogenous group or requires sampling and analysis for asbestos, lead and/or PCBs and will determine whether and when work in that area can resume.

1.09 PRECAUTIONS AGAINST LEAD PAINT EXPOSURE

A. Provide precautions against lead paint exposure where existing paint is to be removed or disturbed and the paint is known or assumed to contain lead. When removing or disturbing existing paint on surfaces that have not been tested by the Authority for lead content, the existing paint shall be assumed to contain lead and shall be treated as if it is lead based paint.

1. Where existing paint is to be removed or disturbed, provide dust barriers (Refer to Article 1.**21**, herein) and other means of containing dust, dirt, paint particles, and debris to the immediate work area. Workers shall not track dust and paint particles through occupied areas. Where possible, provide separate work area access for workers.

2. Comply fully with OSHA Lead in Construction Standard (29 CFR 1926.62) and the EPA Lead Based Paint Poisoning Prevention Rule (40 CFR 745), most recent version thereof.

3. Post warning signs clearly defining the work area which read "WARNING: Authorized Personnel Only" along with any other required signs (e.g., for ACM/Lead) posted for the duration of renovation until cleaning verification is completed.

4. Interior renovation precautions shall include, but are not limited to:

   a. Remove all movable objects from the work area, including furniture, rugs, and window coverings. Cover all non-movable objects with 6 mil fireproof plastic sheeting with all seams and edges taped or otherwise sealed.

b. Close and cover all duct openings in the work area with taped-down 6 mil fireproof plastic sheeting.

c. Close windows and doors in the work area. Doors used as an entrance to the work area must have a dust flap (3-layer plastic sheeting) that allows workers to pass through while confining dust and debris to the work area. All other doors as well as fixed closets, cabinets, refrigerators, etc. which remain in the work area must be covered with 6 mil fireproof plastic sheeting and sealed.

d. Cover the floor surface, including installed carpet, with taped-down 6 mil fireproof plastic sheeting or construction paper in the work area 6 feet beyond the perimeter of surfaces undergoing renovation, to the dust barrier, or a sufficient distance to contain the dust, whichever is greater.

e. Use precautions to ensure that all personnel, tools, and other items, including the exteriors of waste containers, are free of dust and debris before leaving the work area (e.g., by HEPA vacuuming or wet wiping).

5. Exterior renovation precautions shall include, but are not limited to:

a. Close all doors and windows within 35 feet of the renovation on the same floor as the renovation and on all floors below within the same horizontal distance from the renovation.

b. Ensure that doors within the work area that will be used during the work are covered with 6 mil fireproof plastic sheeting in a manner that allows workers to pass through.

c. Place 6-mil fire-retardant poly protection on all grade areas including under scaffolding to collect falling debris. Such protection shall also be placed on roofs and on top of side walk bridges in the vicinity of the work area. Plastic shall be extended from the building to a distance of 15 feet from the building and at least 15 feet laterally beyond each side of the work. Joints must be taped or otherwise

secured to maintain coverage of the required areas and protect plastic from the effects of wind or rain.

d. Take other necessary precautions to ensure that dust and debris from the renovation does not contaminate other buildings or other areas of the property or migrate to adjacent properties (e.g., promptly removing waste and debris, suspending work and rolling up plastic before high wind conditions, etc.).

6. Prohibited and restricted practices include:

a. Open-flame burning or torching of lead-based paint.

b. Use of tools that remove lead-based paint through high speed operation (e.g., sanding, grinding, power planing, needle gun, abrasive blasting, or sandblasting) unless equipped with a HEPA dust collection system including an attached shroud connected to a HEPA vacuum system for capture of dust and information on proposed tool model and design is submitted in advance for approval by the Authority.

c. Operating a heat gun on lead-based paint is permitted only at temperatures below 1100 degrees Fahrenheit.

7. Clean-up: Provide daily and work completion clean-up in accordance with Article 1.24, as a minimum clean-up requirement. Provide more frequent clean-up as conditions require. Provide a thorough final clean up as specified in Article 1.24.

8. Waste Management and Disposal: Segregate waste and debris that contains lead-based paint from all other waste and debris for the purposes of waste characterization to minimize the potential quantity of hazardous waste generated. Place waste in DOT-approved container, remove from premises, and dispose of all existing paint materials, dust, dirt, and debris removed from existing painted surfaces, in compliance with New York City, New York State, and Federal regulations. No painted debris coated with known or assumed lead-based paint shall be transported in open containers at

any time during the project. All debris shall be disposed of in accordance with Article 1.25 herein.

9. If caulks are disturbed during paint removal or abatement, analyze the paint waste for total PCBs in addition to lead TCLP testing unless test results are provided by the Authority.

B. Contractors Bid Amount

1. For purposes of bidding, the Contractor's Bid Amount shall include disposal of all painted waste and debris as non-hazardous "Construction and Demolition" (C&D) waste and disposal of all related project waste (plastic, cleanup waste, water, etc.) in accordance with applicable regulations.

2. The Contract Amount shall be adjusted by Change Order if TCLP testing, as described herein in Article 1.25, determines that some or all painted waste is considered hazardous in accordance with Environmental Protection Agency (EPA) Resource Conservation and Recovery Act (RCRA) regulations.

1.10 PRECAUTIONS AGAINST PCB BALLAST, LIGHT BULB AND MERCURY CONTAINING EQUIPMENT CONTAMINATION

A. Fluorescent light ballasts, light bulbs, Mercury Containing Equipment (MCE), lead-acid batteries and universal waste batteries (e.g., rechargeable, lithium or button batteries) shall be carefully removed before an area or equipment is demolished or disturbed by the work.

1. All fluorescent light ballasts are presumed to contain more than 50 ppm of PCBs, unless labeled "No PCBs". If labeled "No PCBs", the ballasts recycling or disposal is not regulated by TSCA.

2. Light bulbs (the bulb or tube portion of an electric lighting device) may be universal waste. All fluorescent (including compact fluorescent), high intensity discharge, mercury vapor, high pressure sodium, and metal halide lamps may release mercury if broken.

3. All devices that contain elemental mercury integral to its function (e.g., thermometers, thermostats, barometers, manometers, temperature and pressure gauges, and mercury switches) are considered MCE and can be managed as universal waste if they

remain sealed and undamaged. If you remove mercury from MCE, it is no longer Universal Waste and must be managed as hazardous waste or a determination made that it is not hazardous (40 CFR 273.4(b)(3)).

B. Provide all necessary precautions when ballasts, light bulbs and MCE are disturbed or removed to protect students, teachers, building occupants and workers from PCB and mercury exposure and/or prevent environmental contamination. Do not remove mercury from MCE, only remove the MCE or ampules intact in accordance with Universal Waste regulations.

C. If leaking ballasts, broken mercury containing light bulbs or broken or leaking MCE are identified, the Authority's IEH Division shall be notified immediately.

D. Personnel performing the work must receive OSHA Hazard Communication training and work practices training related to PCB and mercury hazards and handling ballasts, light bulbs and MCE, as applicable to the work.

E. All known or suspected PCB containing light ballasts, light bulbs, MCE, lead-acid batteries and universal waste batteries shall be disposed of in accordance with Article 1.26 herein, titled "DISPOSAL OF PCB BALLASTS, LIGHT BULBS, MCE, UNIVERSAL WASTE BATTERIES AND ELECTRONICS WASTE".

1.11 NON-INTERFERENCE WITH SCHOOL FUNCTIONS

A. Perform the Work in such a manner that normal school functions may be carried on throughout the period of work with a minimum of interference. Before commencing work in any portion of the premises normally used for school functions, meet with the Authority's Representative and the school Principal and perfect a working agreement. Noise shall be kept to a minimum.

B. In general, the Contractor shall not use or work in rooms, corridors, stairs, or elevators designated for students or school personnel.

C. The Authority may assign a stair for Contractor use during working hours. Refer to the Phasing Exhibit. The Contractor shall only use the stair for access to floors and shall not in any way obstruct the stair or make it unsuitable for use as an exit by the school's occupants.

1.12 FRATERNIZATION

A. Contractor shall prohibit all contact between Contractor's employees (including Subcontractor's employees and visitors to the site) and the students and school staff.

1.13 WORK SCHEDULE AND PHASING

A. General:

1. All Work must be performed according to a Work schedule outlined in the Phasing Exhibit that will not disrupt school activities. Any Work that is disruptive to school activities shall be performed as Mandatory Work After School Hours.

   All decisions affecting the normal operation of the school shall be coordinated with the School's Principal through the Authority's Representative.

B. Work that shall be performed only when the school is totally unoccupied shall be as follows:

1. Asbestos abatement.

2. Lead abatement.

3. PCB Caulk removal.

4. Contaminated soil remediation.

5. Structural Work critical to the integrity of the building.

6. Any Work generating dust, offensive odors, noxious or toxic fumes or gases (including but not limited to those containing chemicals or mineral dusts listed in 40 CFR 1910.1000 - Air Contaminants, Tables Z-1, Z-2, and Z-3) that cannot be contained within an isolated Work area.

7. Boiler start-up and testing.

8. Ventilation system start-up and testing.

9. Burning, welding, brazing, sweating

C. Voluntary Overtime Work:

When permission to perform overtime or alternate shift Work is requested by the Contractor for the Contractor's own purposes, in order to meet schedules or for the Contractor's own convenience, the Overtime Work (including the cost of overtime custodial services) shall be considered to have been included in the Contract Price and no increase in the Contract Price, or Extra, will be granted for the Overtime Work. Contractor shall pay all incurred overtime custodial services and all costs necessary to maintain the construction operation including but not limited to permits, temporary heat, temporary lighting, and temporary power.

D. Mandatory Overtime Work

If at any time, in the judgment of the Authority, any item of Work is behind the established construction progress schedule, or is causing a delay that will affect the contract completion date, the Authority may order the Contractor to increase The Contractor's Work force or to work the Contractor's forces and the forces of any Subcontractor overtime, at the Contractor's expense, until such time as all items of work have progressed to be in accordance with the accepted construction progress schedule. The Contractor shall pay all incurred overtime custodial services and all costs necessary to maintain the construction operation including but not limited to permits, temporary heat, temporary lighting, and temporary power.

E. Ordered Premium Overtime Work:

1. The Authority reserves the right to order and pay for rescheduling any regularly scheduled Work (other than that Work hereinbefore classified under Voluntary and Mandatory Overtime Provisions) as Premium Work or to add Premium Work to the regularly scheduled Work.

2. Such Premium Work will be made by Change Order of Extra Work as identified elsewhere in the Contract Documents.

3. Extra payment for Change Order of Extra Work shall be paid only for the actual difference between "regular labor rates" and "overtime labor rates," and the cost of any additional labor, material, permits, custodial and ancillary services (if any);

plus an amount in accordance with the provisions of the Contract for any and all other costs, overhead, and profits that might be incurred by the Contractor, as determined by the Authority.

F. Payment of Fees for Custodial Services/DOB and Other Agency Permits

1. On receiving permission from the Authority to perform Work in the building(s) after the building(s) is vacated and for ordered Premium Work on Saturdays, Sundays, Holidays and after the regular hours of duty on business days, the Contractor shall obtain a "custodial permit" and provide compensation for the custodial staff at the rate specified by the custodial contract in force at the time of construction.

2. Obtain and pay for all after hours work permits from the Department of Buildings.

G. Contractor's Procedure for Performing Overtime or Ordered Premium Work To Be Done Prior To Commencing Work:

1. Make arrangements to schedule and pay for duly authorized extra services of the custodial staff of such buildings, as specified in paragraph (F.), PAYMENT OF FEES FOR CUSTODIAL SERVICES, above.

2. Make immediate arrangements to provide such ancillary services, if any, as may be required by the School Boards, Working Men, and Community, including, but not limited to:

a. Sanitary facilities and drinking water.

b. Power and light.

c. Heating, Ventilating and Air Conditioning.

d. Fire Protection.

e. Security.

f. Dust Protection.

g. Clean-up and debris removal.

h. Obtain permit from Supervisory bureau.

H. Contractor's Procedure During Overtime and Ordered Premium Work periods:

1. Proceed expeditiously with Work.

2. Do not begin any Work in any space unless all of the required materials and labor to complete that Work are at the job when Overtime or Ordered Premium work is scheduled to begin.

3. Complete all Work in each phase by all trades that have Work to be accomplished in each phase and inside each defined area.

4. All other limitations and restrictions governing Contract Work during school sessions shall apply to Overtime and Ordered Premium Work.

I. Opening Permits (For Work Involving Wet Mopping & Wiping)

1. For work that must be performed on holidays, weekends and after-school-hours, the Contractor shall obtain from the Department of Buildings an "After-Hour Work Permit", and shall arrange to schedule and pay for extra custodial services as specified in paragraph titled "Payment for Custodial Services", in this Article.

1.14 CHANGE IN LEVELS

A. Where finished floor and yard levels are raised or lowered as a result of Work specified, the Contractor shall make corresponding adjustments to existing floor registers, trap screws, plugs, catch basins, covers to cesspools and dry wells, coal holes, fresh air inlets, grates, fences, railings, tracks and all other work adversely affected by the change in levels, as required to restore proper relationship between these articles and the new floor or yard surface.

1.15 WATER

A. Water required for construction may be taken only from existing hose bibbs or Janitor's Sink Closets.

1.16 ELECTRIC CURRENT

A. Except where required to maintain proper school functions, the existing electrical outlets on the

premises will be available to the Contractor for the operation of low amperage power-driven tools.

1.17 STORAGE SPACE

A. Storage space, if available, will be designated or assigned by the Authority. Interior space will be assigned for storage of material liable to damage by weather. Provide any additional protection required and assume all responsibility for damage to materials. Do not store or temporarily leave materials in locations other than those assigned for storage.

1.18 MECHANICAL WORK

A. The removing of sanitary, heating and ventilating and electric work, including plumbing fixtures, pipes, metal ducts, radiators, lighting fixtures, wires, bells, telephones, and other incidental removals, and the repairing, altering, extending and replacing of such work will be done by the Contractor, as required for the completion of the Work.

B. All work damaged, disturbed or otherwise affected by the alterations shall be repaired.

1.19 MOVING OF FURNITURE, ARTICLES, AND FIXTURES

A. When the moving of furniture, shades, clocks, pictures, maps, plaster casts and other articles or fixtures is made necessary in the carrying on of the alterations, repair work, painting, cutting of openings through or removing of existing walls and partitions, or for any other such reason, the removing, resetting and relocating together with the necessary repairing, shall be carefully done as a part of this Contract.

B. Existing window shades, toilet accessories and other appliances shall be replaced and left in good condition; those which cannot be replaced shall be left in care of the Custodian.

C. All removed work shall be protected.

1.20 EXISTING MATERIALS

A. Unless otherwise specified, it is intended that new materials shall be furnished, but if during the progress of Work it is found that existing materials, other than for plumbing work, are sound and of proper quality and

dimensions, as required by the Drawings and Specifications, the Contractor may use the such materials, provided they are acceptable and have first been approved in writing by the Authority, who will determine the proper allowance to be made for the omission of new materials.

1.21 TEMPORARY DUST PARTITIONS AND BARRIERS

A. Dust Partitions (non-Fire-rated)

Provide temporary dust-tight partitions and doors complying with all requirements of the City of New York City Building Code and all authorities having jurisdiction.

1. Partitions shall extend tightly between walls and partitions, and tightly from floor to ceiling, at locations indicated on the Drawings.

2. Partitions shall be of 2"x4" stud framing, 16" on center with 2"x 4" sill and cap members. Framing shall be entirely covered both sides with 5/8", gypsum wall boards. Provide 3" sound attenuation mineral fire blankets between studs. Both sides of the partition shall be finished with 1/4" x 2" tempered hardboard batten strips over all joints, horizontal and vertical.

3. Provide continuous neoprene gasketing at juncture of Partition with walls, floor and ceilings or underside of structure.

4. Provide at least one, hollow metal door and frame assembly in each partition, where required for access. Door shall be 36" wide by 84" high and each door shall be equipped with hardware as specified in Section 08710 - Finish Hardware: 1-1/2 pairs of butts; a closer; pulls (2 required); rim latch operable by knob-release from work area, key-operated from the other side (furnish three (3) keys); and sill protection sweep.

B. Dust Partitions (Fire-rated)

1. Construct same as in A., above, except provide for 1-hour fire-rated construction: use Type X gypsum board; use 1-hour rated steel door and frame.

C. Dust Barriers

1. Construct of PVC piping framework, telescoping, with holes and pegs to allow adjustment of heights. Cover framework completely with fire-retardant polyethylene film, 6-mils minimum thickness, with flap for access. Install at doorways to form vestibule between work area and other areas. Tape junctures to obtain dust-tight barrier. Construct in manner to provide easy assembly and disassembly.

2. If paint known or assumed to be lead-based in accordance with Article 1.01 is present on surfaces to be disturbed or demolished, follow all precautions in Article 1.09. When test results are provided by the Authority which indicate that the paint is not lead-based paint, all objects in the room shall be covered with drop cloths or 6-mil fire-retardant polyethylene sheeting.

3. Closet doors, cabinets, refrigerators, drawers, etc. which remain in the work area during demolition shall, at minimum, be sealed with duct tape (or equivalent) at all openings where dust may penetrate. As an alternative, the Contractor may completely cover the object and all openings in one layer of 6-mil fire-retardant polyethylene sheeting, sealed on all edges to prevent the penetration of dust.

4. The Contractor shall continuously inspect adjacent non-work areas and ensure that these areas are free of any dust or debris generated by the work.

1.22 USE OF EXISTING SCHOOL ELEVATORS

A. The use of an existing school elevator may be permitted by the Authority for the transport of personnel and material, and the removal of rubbish within the limitations and requirements established below. If permitted, the use of such elevator and hours of operations will be listed in the Phasing Exhibit.

1. The Contractor shall be responsible for, and shall provide all necessary labor and material for, the operation, maintenance and protection of this elevator during the period of its use for this project. The Contractor shall protect walls and floor with 1/2" plywood panels and shall maintain a clean and proper operating condition in the

elevator, pits, shaft ways and machine rooms, and shall bear the cost of making any replacement or servicing required during such operation.

2. The Contractor shall be responsible for any damage to the elevator during the entire period of such use. The Contractor shall give notification in writing to the Authority's field Representative of any alleged damage to the elevator installation within 24 hours after the elevator has been employed for the hoisting of material.

3. The Contractor shall be responsible for the operation of this elevator from a time period of 15 minutes before earliest work in the morning to 15 minutes after the established quitting time of that trade which stops work latest in the day. This applies to every day in the week that is established as a regular working day for the aforementioned trades.

4. If another contractor works before or after the established working hours, or on a Saturday, Sunday or Holiday, such contractor shall pay the Contractor for the operation and maintenance of this elevator, if required, at the required coverage rate reflecting such use.

B. Inspection - At the commencement of the use of the School elevator, the Contractor shall have the elevator inspected by a qualified elevator repair subcontractor. The Contractor shall send a written report to the Authority's Field Representative and to the Director, Program Management, Division of School Facilities stating the condition of the elevator and all its ancillary operating equipment with particular emphasis on any exceptions taken to the condition of any part of the equipment.

C. At the conclusion of the Contractor's use of the elevator, the Contractor shall advise the Authority's Field Representative, who shall arrange for an inspection similar to that specified in Par. B, above, to satisfy the requirements that, aside from the normal depreciation of the equipment, it is in safe and satisfactory condition.

D. The Authority may, at its discretion, make a school elevator available for the Contractor's use during certain hours of the day if so listed in the Phasing

Exhibit. In such case, the Contractor shall be responsible for protection, operation, and maintenance of the elevator and shall remove protection and clean the elevator whenever it is returned to school use.

1.23 REMOVAL OF RUBBISH

A. Remove all rubbish (e.g., dirt, refuse, empty containers and packages, removed materials that become property of Contractor) from the premises as the work progresses. No rubbish of any kind shall be stored in any rooms, halls, passageways or yards and no accumulation of rubbish shall be allowed to remain in or about the premises at any time during the course of the work for more than 24 hours.

B. All painted debris shall be disposed of in accordance with Article 1.25 herein, titled "DISPOSAL OF PAINTED WASTE AND DEBRIS". All presumed or known ACM waste shall be managed in accordance with Section 02081 and all presumed or known PCB-containing caulk waste shall be managed in accordance with Section 02082.

C. Debris coated with paint known or assumed to be lead-based in accordance with Article 1.01, herein, shall under no circumstances be removed from the Work area in open containers.

D. Should the Contractor fail to keep the building, premises and surrounding sidewalks and streets clean and free from rubbish resulting from the Work, then the Authority may have such rubbish removed by others in accordance with the terms of the Contract. In such event, there shall be withheld from any payment to the Contractor a sum determined by The Authority sufficient to cover the cost of removal by other parties.

1.24 CLEAN-UP

A. Daily Cleaning

1. The Contractor shall provide daily wet mopping of floors subject to construction dust in all areas affected by the Work.

2. All vertical and horizontal surfaces shall be cleaned and have a polished appearance and have no accumulation of dust, dirt, marks, streaks, smudges or fingerprints. All lighting fixtures and related work shall be clean.

B. Upon completion of the Work, the Contractor shall provide thorough clean-up of all areas affected by the Work as follows:

1. In general, clean-up requirements are limited to the removal of all rubbish, spatters, stains, smears, finger marks, foot tracks, from finish surfaces and the broom cleaning of floors, yards, sidewalks, and other areas on the premises that are affected by the Work.

2. Where work that causes the dissemination of dust has been performed in the work area and within two feet of the work area, clean-up operations shall include, in addition to the operations hereinbefore specified, the following:

a. All paint chips, waste and debris shall be collected without dispersing any of it and sealed in a disposal container.

b. Remove dust mats, construction paper and protective dust barrier sheeting by misting with water, detaching it, folding it dirty side inward, and either taping to seal it or sealing it in heavy-duty bags. Sheeting separating contaminated rooms from non-contaminated rooms must remain in place until after removing other sheeting. Dispose of sheeting as waste.

c. Clean interior walls starting at the ceiling and working down to the floor by either HEPA vacuuming or wiping with a damp cloth. Thoroughly HEPA vacuum all remaining surfaces and objects in the work area, including furniture and fixtures. The HEPA vacuum must be equipped with a beater bar when vacuuming carpets and rugs.

d. Wipe all remaining surfaces and objects in interior work areas, except for carpeted or upholstered surfaces, with a damp cloth. Mop uncarpeted floors thoroughly, using a mopping method that keeps the wash water separate from the rinse water, such as the 2-bucket mopping method or wet mopping system (i.e., mop head designed to be used with disposable absorbent cleaning pads, a reservoir for cleaning solution, and a built-in mechanism for

distributing cleaning solution onto a floor, or a method of equivalent efficacy).

e. Inspect all interior and exterior work areas (an EPA certified renovator is required for lead-based paint work inspection). Repeat the above cleaning if any dust, debris or residue is present or as required to restore work areas to the same state of cleanliness existing before work began. Repeat the inspection after re-cleaning.

3. In performing dust-creating work, provide dust enclosures and foot mats to minimize the spread of dust and foot marks. Refer to Article 1.21 of this Section.

4. This final clean-up is in addition to the required daily removal of rubbish.

C. Wet Wiping and HEPA Vacuuming

The Contractor shall provide wet wiping, and HEPA vacuuming of all interior surfaces (including furniture) in all areas affected by the Work, immediately prior to the releasing of the areas for school use.

D. The Authority will arrange for collection of Lead-in-Dust wipe samples from a window well, window sill and the floor in all pre-kindergarten, kindergarten and special education classrooms. The Contractor shall be responsible to clean these classrooms in such a manner that they will pass the dust clearance levels of 40 micrograms per square foot for floors, 250 micrograms per square foot for window sills and 400 micrograms per square foot for window wells. All other 'target' areas with lead-based paint work will have dust clearance procedures performed by a certified inspector, risk assessor, or dust sampling technician in accordance with 40 CFR 745.85(c) and 745.227(e)(8). If a sample or verification fails, the Contractor shall be responsible for re-cleaning the surface until it passes the clearance standards. Final reoccupancy will occur after all samples pass and a final visual inspection by the Authority's representative.

1.25 DISPOSAL OF PAINTED WASTE AND DEBRIS

A. Water

1. The Contractor shall not dispose of water used to wash abated surfaces, wash the work area or water used to assist in the removal of paint in the City sewer system without first obtaining a permit for such disposal from the New York City Department of Environmental Protection (DEP). Until such a permit is obtained or the waste water is characterized and disposed at a licensed waste disposal facility (in accordance with paragraphs B and C below), all water shall be containerized as described in Subparagraph C.1 below.

2. The Contractor shall ensure that water is separated from solid waste (i.e., paint residue, chemical stripper) and the method used for separation is clearly described in the DEP application.

3. The Contractor shall test the water for the parameters listed below. In addition, the Contractor may be asked by the DEP to test for other parameters not listed.

   a. Total Petro-Hydrocarbons

   b. pH

   c. RCRA Seven Metals

   d. Cyanide

   e. Flashpoint

   f. Total Solids

4. The cost of water testing and analyses, permit application process and off-site disposal is the responsibility of the Contractor.

B. Testing and Hazardous Waste Determination

1. Perform Toxicity Characteristic Leaching Procedure (TCLP) testing of all painted waste and debris streams generated. If there are both lead-based paint areas and non-lead-based paint areas in the scope of work, the waste from lead-based paint areas must be segregated (see paragraph 3.01.A.8)

and separately sampled and analyzed. Non-lead-based paint waste stream analysis is required because the TCLP test and thresholds are different from lead-paint test and thresholds. The Authority may waive this requirement, but only if it has prior in-place waste or other data that has already determined whether the waste is hazardous.

a. Collect at least one representative composite sample of each waste stream containing LBP painted surfaces and one representative composite sample of each waste containing non-LBP painted surfaces. An example representative sampling and analysis procedure would be to collect at least ten (10) grab samples per waste type with all layers of waste material (plaster/sheetrock, paint, etc.).

b. Ship samples under Chain of Custody to an NYSDOH ELAP-certified lab with instructions to composite grab samples into one composite sample per waste type and test Toxicity Characteristic Leaching Procedure (TCLP) extraction for lead.

c. All laboratory analysis shall be conducted in an expeditious manner, with results not to exceed 72 hours turnaround.

2. TCLP testing of water is not necessary provided the Contractor has obtained a permit from the DEP for the disposal of water into the City sewer system. If a permit has not been obtained, all water shall be analyzed for lead and managed according to the procedures described in Section C below.

3. Submit to the Authority the analysis results and waste profile approved by the disposal site indicating the determination of whether the waste is hazardous.

C. Storage and Disposal

1. Package and label waste

a. All waste (and water if no DEP permit has been obtained for sewer disposal) shall be kept in covered or sealed containers, secured, labeled and stored in a designated secured storage

space on site until test results categorize all waste to be hazardous or non hazardous.

b. Waste shall be stored in a manner that will not allow entry of any hazardous material into the environment (e.g., DOT approved containers). Container lids or bin covers shall be firmly secured, except during filling. The containers shall be marked with the contents, tare weights (for rolloffs), the origin and date of collection of the material and weather resistant indelible ink labels warning of the potential hazards associated with the material. The containers shall be keyed to the samples taken. Hazardous waste shall also be labeled "Hazardous Waste" in accordance with the applicable provisions of 40 CFR 262.32 and 49 CFR 172.304.

c. All waste, after being evaluated in accordance with the Toxicity Characteristic Leaching Procedure (TCLP) test, shall be disposed of in accordance with all applicable local, Federal, State and county Regulations.

d. Submit to the Authority for approval information regarding the Hazardous Waste transporter and disposal site permits demonstrating that they are permitted to transport and dispose the waste.

2. Storage of waste on site

a. Hazardous waste must remain on-site until accepted by a licensed hazardous waste transporter for shipment to a licensed disposal facility.

b. The site shall be in a suitable location, acceptable to the Authority, on well-drained ground not subject to flooding (40 CFR Part 264.18) or run-off. The area shall be enclosed by a fence or a designated locked area, adequately protected from vandalism or unauthorized access (40 CFR Part 264.14), and prominent warning signs shall be displayed around the perimeter. If the site is also used for equipment and supplies, the waste containers shall be segregated within the site (e.g., placing in an assigned area surrounded

with a temporary "fence" of ribbons or thin rope). All drums shall be placed on pallets or dunnage to prevent corrosive attack from moist soil. The containers shall be arranged so that the labels are visible at all times. A warning sign shall be posted where hazardous waste is being stored reading:

"HAZARDOUS WASTE STORAGE AREA
NO SMOKING OR EATING"

Note: At the completion of each work shift, if all hazardous or suspected-hazardous waste generated cannot be stored in a suitable secured area that will prevent unauthorized access to the public (e.g., container with rigid construction materials and a lockable access door), the Contractor shall arrange for the transportation and disposal of the material each day of the project.

3. Transportation requirements

a. Each waste transporter shall possess a valid Waste Hauler's permit issued pursuant to NYSDEC regulations, 6 NYCRR Part 364. If the waste is to be transported and disposed of out of New York State, permits from states through which waste will be transported and where it will be disposed may be required. The Contractor shall provide all required permits for review and approval of the Authority.

4. Disposal requirements

a. Each waste disposal facility shall possess all permits and/or licenses required under NYSDEC regulations (6 NYCRR Part 360), RCRA, New York City DEP, as well as any other federal, state or local permits or licenses required for removal, packaging, transportation and disposal of hazardous waste. The Contractor shall provide a copy of required permits for review and approval of the Authority.

b. All hazardous waste removed hereunder shall be lawfully treated and disposed by the Contractor at an EPA permitted Treatment, Storage and Disposal Facility (TSD).

c. The Contractor shall not ship wastes until TSD facilities and transporters used are approved by the Authority. The Authority reserves the right to inspect the Contractor's transporters, equipment, equipment storage facility and TSD facility at any time.

d. All wastes, containers, and other items removed hereunder shall be lawfully treated and disposed of by Contractor within thirty (30) days after removal from the site.

e. Contractor shall submit evidence to the authority that those signing manifests have received DOT Hazardous Materials Shipping Training (initial and refresher every 3 years per 49 CFR USDOT regulations).

f. The Contractor shall immediately forward the "Retained by Generator" copy of all hazardous waste manifests and associated documents (e.g., Land Disposal Restriction notification) to the SCA IEH Department within 24-hours of the signing of the shipping papers by fax (ATTN: WASTE MANIFEST COORDINATOR at 718-472-8500) or email (THIGHTOWER@NYCSCA.ORG) or via alternate means when directed by the Authority. Completed shipping documents shall contain the information required under 40 CFR Part 262 Subpart B (hereinafter the "Manifest Form") and 6 NYCRR Part 372. The Authority will forward copies of the manifest to the generator state and disposal states. The signed Disposal Site copy of the manifest required to be returned within 30 days of shipment shall also be forwarded to the IEH Department within 24 hours of receipt. Also forward Certificates of Disposal which specify where each component of the hazardous wastes is ultimately treated or disposed, Manifest number, and address and EPA identification number for the generator facility.

g. The Contractor shall immediately notify the Authority in writing of any problems that would require the return of waste to the Authority or of any violation of any environmental law or regulation which would result in any enforcement action related to the waste and, when needed, shall identify an

alternative TSD and obtain written approval from the Authority for disposal at such TSD.

h. The Contractor shall provide completed shipping documents, either "Non-Hazardous Waste Manifest" or "Bills of Lading", for all non-hazardous waste removed from the Authority's property. Shipping documents shall accompany each waste shipment and include information on the quantity and type of waste, the destination and disposal firm accepting the waste, the waste transporter name, and the date shipped.

D. Recycling

1. Architectural wastes that would otherwise be hazardous waste due to lead-based paint (e.g., scrap metal) may only be recycled if the contractor submits a "c7" notification to NYSDEC for each recycling facility when required by NYSDEC regulations (6 NYCRR 371.1(c)(7))). The Contractor shall provide the Authority a copy the "c7" notification or alternate required information as described in Article 1.05.

E. LQG and SQG Hazardous Waste Management Requirements

1. The contractor shall conduct the work using methods that do not result in exceeding the hazardous waste Large Quantity Generator (LQG) or Small Quantity Generator (SQG) thresholds (considering any existing school waste generation) or shall meet all LQG or SQG compliance requirements and provide the Authority with all LQG or SQG documentation required to demonstrate compliance at least two weeks before exceeding the thresholds (or before the effective date of the requirement, e.g., biennial reports).

a. SQG – generates (in a calendar month) >100 kg and <1,000 kg and also stores (at any time) ≤6,000 kg of hazardous waste (assuming it is not acute hazardous waste).

b. LQG – generates (in a calendar month) ≥1,000 kg or stores >6,000 kg of hazardous waste (assuming it is not acute hazardous waste).

2. The Contractor shall notify the Authority in advance if their methods are projected to result in exceeding the LQG and SQG thresholds. The Contractor shall track the rate of hazardous waste generation and total quantity accumulated during the work and shall notify the authority before exceeding the LQG and SQG thresholds.

3. If the Contractor will exceed the LQG or SQG thresholds, the Contractor shall meet all applicable regulatory requirements including:

   a. Maintain housekeeping and adequate aisle space for emergency access, provide immediate access to emergency communications (e.g., phone, radio), and document weekly inspections of all hazardous waste storage areas.

   b. Maintain and test emergency equipment.

   c. Determine if there is an existing EPA hazardous waste generator identification number. If not, submit a "Notification of Regulated Waste Activity Form" (EPA Form 8700-12) to the Authority concurrent with transporter and disposal facility permits.

   d. Prepare a Hazardous Waste Contingency Plan (6 NYCRR 373-3.4(c), (g)) for Authority submittal to local emergency response organizations. Have a Facility Emergency Coordinator on-site or on call at all times to make notifications and coordinate emergency response.

   e. Follow the requirements of this specification for minimizing Hazardous Waste generation and certify on hazardous waste manifests that a waste minimization "program is in place."

   f. Train all personnel handling hazardous waste (6 NYCRR 373-3.2).

1.26 DISPOSAL OF PCB BALLASTS, LIGHT BULBS, MCE, UNIVERSAL WASTE BATTERIES AND ELECTRONICS WASTE

A. Generally Applicable Requirements

1. Submit to the Authority for approval information regarding the waste transporter and disposal site permits demonstrating that they are permitted to transport and recycle or dispose waste PCB Ballasts, light bulbs, MCE, universal waste batteries and electronics wastes (as applicable).

2. Waste shall be managed to prevent the release of any waste or component to the environment and secured on-site until removed by a licensed transporter for shipment to a licensed recycling or disposal facility. Each waste type shall be placed in a separate container or package that is structurally sound, adequate to prevent breakage, compatible with the contents and meets DOT shipping requirements. Such containers shall remain closed and lack evidence of leakage, spillage or damage that could cause leakage. Store in a secured, dry location acceptable to the authority that has warning signs to prevent unauthorized access and prevents waste containers from damage.

3. The Contractor shall immediately notify the Authority's IEH Division of leaking ballasts, broken mercury containing light bulbs, broken or leaking MCE, or leaking batteries and state whether it understands how to immediately respond to prevent the spread of contamination, clean up the released material and manage the waste it in accordance with applicable regulations. Any hazardous waste generated from cleanup of leaks or breakage of these wastes shall be handled in accordance with applicable regulations and applicable provisions of Article 1.25.

4. The Contractor shall remove all wastes from the Site within 60 days of generation, including any hazardous wastes from cleanup of leaks or breakage.

5. The Contractor shall provide a copy of completed shipping documents (e.g., "Non-Hazardous Waste Manifest" or "Bill of Lading") for all waste removed from the Authority's property which includes the quantity and type of waste, the destination recycling or disposal facility, the waste transporter name, and the date shipped.

6. Documents from the recycling or disposal facility that acknowledge acceptance of materials shall be submitted within thirty (30) days of shipment.

B. PCB Ballasts

1. The Contractor shall assume that fluorescent light ballasts contain PCB capacitors and potting material unless ballast contains a "No PCBs" label.

2. The Contractor shall handle, manage, and recycle or dispose of all PCB Ballasts in accordance with 40 CFR Part 761.50 and Part 761.62.

3. If ballast contains a "No PCBs" label, the ballast may be recycled or disposed of as solid waste.

C. Light Bulbs

1. All light bulbs shall be considered "universal waste lamps" unless manufacturer's information or test results are obtained demonstrating that they are below the TCLP hazardous waste threshold. This includes all lamps with sockets that have lead-containing solder (including most incandescent and halogen lamps) and all mercury-containing lamps (including all regular and compact fluorescent, high intensity discharge, mercury vapor, high pressure sodium, and metal halide lamps).

2. The Contractor shall handle, manage, and dispose of all universal waste light bulbs in accordance with 6 NYCRR 374-3. Each container shall be labeled or marked clearly with any one of the following phrases:

   a. "Universal Waste - Lamp(s)", or
   b. "Waste Lamp(s)", or
   c. "Used Lamp(s)".

D. Mercury Containing Equipment (MCE)

1. All elemental mercury containing thermometers, thermostats, barometers, manometers, temperature and pressure gauges, and mercury switches are considered MCE.

2. Do not remove mercury from MCE, only remove the MCE or ampules intact in accordance with Universal Waste regulations.

3. The Contractor shall handle, manage, and dispose of all MCE in accordance with 6 NYCRR 374-3. Each

container shall be labeled or marked clearly with any one of the following phrases:

a. "Universal Waste - Mercury Containing Equipment," or
b. "Waste Mercury-Containing Equipment", or
c. "Used Mercury-Containing Equipment."

E. Universal Waste and Lead-Acid Batteries

1. All rechargeable, lithium, button and other batteries that are not lead-acid, carbon-zinc or alkaline are considered universal waste.

2. All lead-acid batteries shall be recycled in accordance with 6 NYCRR 374-1.7.

3. The Contractor shall handle, manage, and dispose of all universal waste batteries in accordance with 6 NYCRR 374-3. Each container shall be labeled or marked clearly with any one of the following phrases:

a. "Universal Waste - Universal Waste Battery(ies)", or
b. "Waste Battery(ies)", or
c. "Used Battery(ies)."

F. Electronics Waste ("E-Waste")

1. All "used electronics", when disposed, are considered potentially hazardous wastes unless properly recycled as "electronic waste" or "E-waste". Used electronics include computers, computer peripheral devices, computer monitors, computer projectors, televisions, VCRs, DVD players, printers, fax machines, audio equipment, and any other devices containing circuit boards. Used electronics do NOT include "household" appliances (e.g., clothes washers, clothes dryers, refrigerators, freezers, microwave ovens, ovens, ranges or dishwashers) that are required to be recycled as "bulk metal" items in New York City.

2. The Contractor shall first confirm with the Authority and the school's Custodian and Principal in advance that the Department of Education had the opportunity to relocate, reuse or recycle all electronics and that remaining equipment is the Contractor's responsibility to properly manage.

3. The Contractor shall handle, manage, and dispose of all E-waste in a way that keeps it dry, secure and prevents release of any hazardous component to the environment. E-waste shall be secured until shipped or otherwise labeled or marked clearly to identify that it is E-Waste requiring recycling by a Collector, Dismantler, or Recycler of Used Electronic Equipment meeting all applicable federal, state and local regulations.

4. The Contractor shall immediately clean up and place in a container broken components that could cause a hazardous substance release to the environment and must properly clean-up any debris and residues. The Contractor shall sample and analyze any broken components or cleanup waste to determine whether it is hazardous waste. Broken Cathode Ray Tube (monitor or TV) glass with no attached metal is not eligible for the hazardous scrap metal exemption and cannot be sent to a recycler. Hazardous waste must be managed as described in Article 1.25.

END OF SECTION

* * *